

PENROSE MEMORIAL LECTURE

POPE LEO X AND THE TURKISH PERIL

KENNETH M. SETTON

Professor of History, Institute for Advanced Study

(Read in part April 24, 1969)

IN THE later fifteenth and early sixteenth centuries the popes were tending to become like other Italian princes. They were elected to office, as were the doges of Venice, by a small, oligarchically minded corporation. During this period the families of the Piccolomini, della Rovere, Borgia, and Medici each gained the papacy more than once. Cardinals were often papal nephews, and the popes founded princely families. Patronage was reserved for personal friends or political supporters. But in some ways the fall of Constantinople and the growing Turkish peril exercised as beneficent an effect upon the papacy as did, later on, the whole movement of Counter-Reformation and the Council of Trent.

The Turkish problem forced the popes to take all Europe into account in formulating their major policies, broadened their outlook at every critical juncture of affairs, and helped (even obliged) them to maintain the universal character of the papacy. Sometimes, too, the appeals of Greek refugees and the lure of classical scholarship directed the attention of humanists in the Curia Romana to the sad plight of Greece. It is small wonder that talk of the Crusade was constant, and yet it is not surprising that so little was done to organize large-scale expeditions to attack the Ottoman empire.

If such factors as the rivalry of the Spanish and French for the control of Italy were constantly to require the popes to search a broad horizon for means of preserving their independence, the era was not a healthy one for claims to universality. The medieval synthesis, such as it was, had broken down. For centuries Latin had been the language of learning and diplomacy, but now it was losing its position, assailed by the vernacular languages.

Increasingly the diplomat had to be a linguist.<sup>1</sup> The age of Charles V was at hand, and Charles was an accomplished linguist.

The decline of Latin seems actually to have been detrimental to the prestige of the papacy. The universal language and the universal church were going down together. The religious unity of Europe declined with its linguistic unity, and papal authority was impaired by the growth of the vernacular languages as well as of the national states. The popes could always preach crusades, and Pius II (like Gregory X before him) proposed to lead one. But no pope ever went crusading in the Levant, and in the maelstrom of Italian politics it would have been unwise to leave

Guise's difficulties were increased because he did not know Latin, "che non satisfèrà al Papa—qual non sa latin e parla francese" (Sanudo, *Diarii*, XX, 478, and cf. Pastor, *Gesch. d. Päpste*, IV-1 [repr. 1956], 76, note 2). Three years later, in December, 1518, when the humanist Cardinal Bibbiena was in Paris as papal legate to enlist French support for the crusade, Francis I did not want him to speak "classical" Latin, which the king and his advisers obviously could not handle (Sanudo, *Diarii*, XXVI, 302): "... e il Re volse esso Legato parlasse in latin vulgar per poterli far risposta lui, et non parlando latin conveniria far far ad altri, e voleva tutti fosseno testimoni di quello si offerirà di far. . . . Et cussì il Legato fece una bellissima oratione vulgar dicendoli il pericolo di la christiana religione per Turchi. . . ." In June, 1520, Leo X received the duke of Albany as the ambassador of the Scottish king: "... Indi il secretario dell'Ambasciatore fece la oratione et iscusò il Duca che per la mala valetudine et imperitia della lingua latina havea dato quel carico a lui. . ." (Venezia, Biblioteca del Museo Correr, MS. Cicogna 2848, fol. 335\*, from the diary of Marcantonio Michiel). On the life and works of Michiel (ca. 1486-1552), see E. A. Cicogna, "Intorno la Vita e le opere di Marcantonio Michiel, patrizio veneto, della prima metà del secolo XVI," in the *Memorie dell' I. R. Istituto Veneto di scienze, lettere ed arti*, IX (Venice, 1860), 359-425, and on the importance of the diaries note, *ibid.*, esp. pp. 375-77, 391 ff. I wish to thank my learned colleague, Professor Felix Gilbert, for giving me several important bibliographical references.

<sup>1</sup> In early August, 1515, for example, the young count of Guise went on a special mission to Rome as the envoy of Francis I (just before the battle of Marignano), but his talks with Leo X were quite unsatisfactory, and

the Petrine patrimony entirely to the mercy of the secular powers.

As Europe passed into the sixteenth century, the papacy responded rather slowly to the needs of the new era. Often in the pages of Johann Burchard's ceremonial diary the religious life of the Curia Romana takes on the appearance of a theatrical performance, devoid of spiritual content. This is due only partly to the nature of the diary and to the mentality of Popes Innocent VIII and Alexander VI. The Curia was spiritually deficient. The colorful panorama of papal processions; the celebration of holidays, new treaties, and naval and military victories; the reception of princes and ambassadors, and the like—all these were in fact spectacles of uncommon interest, delighting the Roman populace. Indeed they still do so. But from the reign of Julius II increasing numbers of serious statesmen and scholars received papal preferment, and expected to dedicate their abilities to the highly complex foreign and domestic problems with which the Holy See was faced.

When Julius II died, men were well aware not only that an extraordinary papacy had come to an end, but that the contest of the Spanish and French for dominance over Europe as well as Italy marked the beginning of a new period in diplomacy and warfare. The Spanish viceroy of Naples, Ramón de Cardona, was determined to build his position in northern Italy upon as firm foundations as possible because he knew, as Francesco Vettori saw clearly, that Julius II had planned to expel Ferdinand the Catholic from Italy, as surely as he had done Louis XII of France.<sup>2</sup> Julius had died at the wrong time, but no one lives forever. There was naturally much speculation as to who his successor would be, and whether the new pope would promote the cause of peace or prolong the war in Italy.

On 4 March, 1513, twenty-five cardinals gathered in the Vatican palace. Insisting upon the continuance of the Fifth Lateran Council both to

effect the needed reform in the Church and to prosecute the war against the Turks, they entered into solemn conclave. As usual, the voting was done in the Chapel of S. Niccolò da Bari, which no longer exists. The cardinals slept in the Sistine, where small, dark cells were assigned to them by lot, and took exercise and held their deliberations in the adjoining rooms of the palace. After a week, on 11 March, they elected the affable Cardinal Giovanni de' Medici pope.<sup>3</sup> He took the name

<sup>2</sup> Pastor, *Hist. Popes*, VII (London, 1908, repr. 1950), 18-26, and append., docs. 2-3, pp. 446-448, and *Gesch. d. Päpste*, IV-1 (Freiburg in Breisgau, 1923, repr. 1956), 13-18, with refs., and *ibid.*, IV-2, append., docs. 2, 4, pp. 648, 677-678; also note J. B. Saegmüller, *Die Papstwahlen und die Staaten von 1447 bis 1555*, Tübingen, 1890, pp. 137-141. The statement of Pastor, *Gesch. d. Päpste*, IV-1, 13, that the cardinals voted in the Sistine Chapel is erroneous, like various other observations he has made on the location of events in the Vatican Palace, on which (for example) see Franz Ehrle and Hermann Egger, *Der Vatikanische Palast in seiner Entwicklung bis zur Mitte des XV. Jahrhunderts*, Città del Vaticano, 1935, pp. 103-109, 124-125. Actually every pope from Calixtus III to Paul III (from 1455 to 1534) was elected in the Chapel of S. Niccolò da Bari (*op. cit.*, p. 126).

Since the Cardinal de' Medici was only a deacon, he was ordained a priest on 15 March and consecrated bishop on the seventeenth (Pastor, IV-1, 23). The conciliarists of Pisa, the former Cardinals Bernardino Carvajal and Federico di Sanseverino, were of course not members of the conclave (cf. Sanudo, *Diarii*, XVI, 11, 58, 68, 72, 73, 153, 292, 307, 331). Wm. Roscoe's unusual study of *The Life and Pontificate of Leo the Tenth*, 4 vols., Liverpool and London, 1805, II, 164 ff., still merits attention, and not least for the documents in the extensive appendices. The location of the cardinals' cells in the Sistine is known from a text which locates them under the various frescoes on the chapel walls, on which see the interesting note of O. Clemen, "Zur Papstwahl Leos X.," *Historische Vierteljahrsschrift*, X (1907), 506-508. Cf. also Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 13-15, vol. XXXI (1877), 6-7; *Lettres du roy Louis XII*, IV (1712), 63-72; and Francesco Vettori, *Storia d'Italia dal 1511 al 1527*, in *Archivio storico italiano*, appendix to vol. VI (1848), 296-298, whose rather cynical analysis of the election professes to explain why the cardinals in conclave preferred Giovanni de' Medici to Raffaele Riario, the cardinal of S. Giorgio. For a brief while it seemed conceivable that the voting in the conclave might swing to Riario, who was thought to represent the *fazione Roveresca* (cf. Pio Paschini, "Adriano Castellesi," in *Tre Illustri Prelati del Rinascimento*, Rome, 1957, pp. 74-75). As usual Sanudo assembled all the facts and rumors he could relating to the election (*Diarii*, XVI, II, 16, 18 ff., 28-33, 36, 37-42, 45 ff., 50-51, 79-84 and ff.). The detailed election capitulations provided for the Christian defense against the "perfidious Turks" (*ibid.*, col. 101), who

<sup>2</sup> Francesco Vettori, *Storia d'Italia dal 1511 al 1527*, in *Archivio storico italiano*, appendix to vol. VI (1848), 289: "... perchè il Vicerè conosceva benissimo che lo animo di papa Giulio era di cacciare il suo re d'Italia come avea fatto il re di Francia. . . ." The Spanish withheld Brescia from the Venetians, says Vettori, "because the king of Spain wanted to maintain an army in Italy in another place than in the kingdom of Naples" (*op. cit.*, p. 299, and cf. p. 288).

Leo X, the first Florentine ever to be elected pope. His elevation caused wild rejoicing in his native city, where news of the great event arrived some ten hours after its first announcement in Rome. His brother Giuliano began preparations to go to Rome with 400 horse, and the Florentine Signoria chose a dozen nobles as an embassy of obedience to the new pontiff.<sup>4</sup> Pro-French elements in Italy were disturbed, but, despite the Cardinal de' Medici's recent support of his predecessor's warlike activities, his capture by the French after their short-lived victory at Ravenna (in April, 1512), and his subsequent reoccupation of Florence with Spanish assistance, King Louis XII received the news of his election without notable regret.<sup>5</sup> Ferdinand the Catholic of Aragon was of course elated, as he wrote Leo,<sup>6</sup> for after all had not the latter been his ally? The German and Italian reactions to the election—less important than the French and Spanish—were also generally favorable. Leo X was crowned on Saturday, 19 March.<sup>7</sup>

were then believed to be moving against Rhodes (cols. 129, 133, 179). Of inestimable value for the first years of Leo X's reign is the unfinished work of Cardinal Joseph Hergenrother, *Leonis X. Pontificis Maximi regesta*, Freiburg im Breisgau, 1884, and the detailed narrative of C. J. Helefe, J. Hergenrother, and H. Leclercq, *Histoire des conciles*, VIII-1 (Paris, 1917), 389 ff., is as always very instructive. E. Rodocanachi, *Histoire de Rome: Le Pontificat de Léon X (1513-1521)*, [Paris,] 1931, is readable but sometimes unreliable. Paride Grassi has described in detail the ceremonies attending the inception of the conclave (*Diarium*, in *Bibl. Apost. Vaticana*, Cod. Vat. lat. 12, 274, fols. 4 ff., 9 ff., 15\* ff., by modern stamped enumeration), from which the Cardinal de' Medici emerged as Leo X (*ibid.*, fols. 20 ff.).

<sup>4</sup> Sanudo, *Diarii*, XVI, 67-68, 148, 356, 361-362.

<sup>5</sup> Sanudo, *Diarii*, XVI, 134. In fact Leo X's brother Giuliano de' Medici wrote that Louis XII was delighted with the election (*Requon illūn magnam laetitiam cepisse*), and was now prepared to make peace with the Holy See (Hergenrother, ed., *Leonis X. . . regesta*, I, no. 1974, p. 112; Pietro Bembo, *Epp.*, I, no. 18, in *Opere del Cardinale Pietro Bembo, ora per la prima volta tutte in un corpo unite*, IV [Venice, 1729], 8).

<sup>6</sup> Sanudo, *Diarii*, XVI, 242.

<sup>7</sup> Papal coronations were commonly held on Sunday, but 20 March was Palm Sunday, and Leo X's coronation was hastened in anticipation of Holy Week (Pastor, *Gesch. d. Päpste*, IV-1 [repr. 1956], 23). Cf. Sanudo, *Diarii*, XVI, 57, 59, 71, 72-73, 158, 160 ff. The imperial ambassador in Rome, Count Alberto Pio da Carpi, wrote Maximilian, with some clairvoyance after the election: "... Opinione mea pontifex maximus potius erit mitis ut agnus quam ferox ut leo, pacis erit cultor magis quam belli, erit fidei promissorumque servator religiosus,

The Turkish problem had mounted the throne with him. On 18 March, the day before his coronation, Leo had warned King Sigismund of Poland that the latter's differences with Albrecht of Hohenzollern, margrave of Brandenburg and master of the Teutonic Knights in Prussia, must be composed, for their near neighbors the Turks could only rejoice in the internecine strife of Christians, and be encouraged to launch further attacks upon central Europe.<sup>8</sup> On 23 March, Leo appealed to Ramón de Cardona, the viceroy of Naples, to allow and encourage aid to be sent to Rhodes, for it was believed in the Curia that the Hospitallers would soon be under Turkish siege on their island fortress.<sup>9</sup> But cultivated and courtly as he was, Giovanni de' Medici was also distractable, and we may well assume that he gave little thought to the Turks as he rode in procession to occupy the Lateran basilica on 11 April although he was actually mounted on the same Turkish horse that he rode when captured by the French at Ravenna a year before.

amicus Gallorum certe non erit, sed nec acer hostis ut fuerat Julius, gloriam et honorem non negligit, favebit literatis, hoc est oratoribus et poetis ac etiam musicis . . . bellum non suscipiet nisi plurimum lacescit et valde coactus, excepto bello contra infideles ad quod suscipiendum iam aspirare videtur . . . tamen homines mutant in horas et ludit in humanis divina potentia rebus' . . ." (*Letture du roy Louis XII*, IV [1712], 79). As for Carpi's assumption that Leo X would press for peace in Europe and war against the Turks, he was of course quite right, but this was the usual cliché of international diplomacy at this time, to which even Louis XII professed to subscribe in a letter, for example, to the College of Cardinals dated at Blois on 5 March, 1513 (Sanudo, *Diarii*, XVI, 34). In his ceremonial diary Paride Grassi has of course described Leo's coronation (Cod. Vat. lat. 12, 274, fols. 28 ff., by modern stamped enumeration).

<sup>8</sup> Hergenrother, *Leonis X. . . regesta*, I, no. 12, p. 3; Pietro Bembo, *Epp.*, I, no. 5, in *Opere del Cardinale Pietro Bembo*, IV (Venice, 1729), 4-5. On 1 April, 1513, Leo again informed Sigismund that he must allow the settlement of his contest with Albrecht either by the arbitration of a papal legate or by a decision of the Lateran Council (*Regesta*, I, no. 187, p. 113; Bembo, *Epp.*, I, 22, in *Opere*, IV [1729], 9), which letter was followed by another to the same effect on 30 April (*Regesta*, I, no. 2316, p. 134, and Bembo, *Epp.*, II, 19, in *Opere*, IV, 15, and cf. *Epp.*, II, 20-21, pp. 15-16, and Raynaldus, *Ann. eccl.*, ad aum. 1513, nos. 33 ff. vol. XXXI [1877], 14 ff.).

<sup>9</sup> *Leonis X. regesta*, I, no. 1928, p. 109; Bembo, *Epp.*, I, 7, in *Opere*, IV, 5. On 22 March Leo had written to the Genoese government on the Hospitallers' behalf (*Regesta*, I, no. 1921, p. 108; Bembo, *Epp.*, I, 8, in *Opere*, IV, 5).

The elaborate celebration of the *possesto*, or taking possession of the Lateran, was held in fact on the anniversary of Leo's capture, but 11 April was also the feast of S. Leo the Great. The day had been deliberately chosen as a reminder that good fortune had followed adversity.<sup>10</sup> The major theme running through the ceremonies attending Leo X's "possesto" was the great need of making peace both among the European powers and the Italian states. But, however devoutly to be wished for, peace would not be easy to secure or maintain so long as the French were bent upon avenging their defeat at Ravenna and recovering their losses in Lombardy.

By the treaty of Blois on 23 March, 1513, Louis XII had struck a "perpetual alliance" with his Venetian prisoner Andrea Gritti, which the pope might enter if he wished. The treaty entirely annulled the objectives of the erstwhile League of Cambrai. The Venetians were now to put an army of 12,000 men into the field while the French invaded Lombardy. The allies were to fight until the Venetians had regained the lands they had lost to the League of Cambrai and the French had regained the Milanese duchy and its dependencies.<sup>11</sup> News of the treaty of Blois evoked grave fears in Leo X's mind. Julius II had of course added Parma and Piacenza to the states of the Church, but after Julius's death Ramón de Cardona had returned them to Massimiliano Sforza, the duke of Milan. Sforza now gave them up to Leo, who had no desire to see them fall again under French dominion as dependencies of the Milanese duchy. As the first rumor reached Rome of the negotiations at Blois, Leo wrote immediately to Pietro da Bibbiena, his nuncio in Venice, to find out all about the alleged treaty, concerning which neither Bibbiena himself nor the Venetian ambassador to the Curia

Romana had either written or spoken a single word.<sup>12</sup> Obviously Leo had no intention of joining the Franco-Venetian alliance, which could only mean the eventual loss of all papal territories in the northern Romagna. His brother Giuliano, who nurtured the old Florentine predilection for the French, tried to incline him toward Louis XII. But Leo could hardly dismiss from his mind the fact that the Medici owed their recovery of Florence to Spanish arms. As the war clouds again darkened the northern horizon of Italy, his Holiness preached peace and tried to remain neutral, until perhaps it should be clearer who would win the next encounter. Then it might be possible to see more clearly where the interests of the Medici and the Holy See really lay.<sup>13</sup>

Pope Leo had ample cause for hesitation. On 5 April, 1513, King Henry VIII of England and the Emperor Maximilian formed a Holy League at Mechlin (Malines), the residence of the Archduchess Marguerite of Savoy. The allies assumed the adherence of both the pope and Ferdinand of Aragon to the league, the purpose of which was to attack France on all sides.<sup>14</sup> After some

<sup>10</sup> Sanudo, *Diarii*, XVI, 678-690, has preserved an elaborate description of the procession of 11 April, 1513, on which cf. Pastor, *Gesch. d. Päpste*, IV-1, 24 ff.; *Leonis X. regesta*, I, no. 2119, p. 121; Wm. Roscoe, *Leo the Tenth*, II (1805), 174-176; Rodocanachi, *Le Pontificat de Léon X*, pp. 41 ff.

<sup>11</sup> Jean Dumont, *Corps universel diplomatique du droit des gens*, IV-1 (Amsterdam, 1726), 182-183; Predelli, *Regesti dei Commemorativi*, VI, lib. XX, no. 7, p. 130, and cf. nos. 23 and 30; Sanudo, *Diarii*, XVI, 119, 121-126, 136, 143, 167-168, 172, 190-191, 212 ff., 284 ff., and vol. XX, 436; cf. Francesco Vettori, *Storia d'Italia dal 1511 al 1527*, in *Arch. stor. italiano*, app. to vol. VI (1848), 299-300; Wm. Roscoe, *Leo the Tenth*, II (1805), 186-187.

<sup>12</sup> *Leonis X. regesta*, I, no. 2103, p. 120, and Bembo, *Epp.*, II, 1, in *Opere*, IV, 11. Few topics excited more interest in diplomatic docuents at this time than the fate of Parma and Piacenza and conditions in the unfortunate cities (Sanudo, *Diarii*, XVI, 6, 10, 48, 49, 56-57, 58, 61, etc., 68, 72, 81, etc., 172, 223, 307, 356-357, etc., and note vol. XX, 42; *Leonis X. regesta*, I, nos. 2421-2422, p. 142, and Bembo, *Epp.*, II, 34-35, in *Opere*, IV, 18). On 15 October, 1513, the Venetian ambassador to the Holy See wrote the Senate that "il Papa voria far accordo col duca di Milan di tenir Parma e Piacenza e darli in recompensa Bergamo e Brexa" (Sanudo, XVII, 227). When the pope's brother Giuliano de' Medici married Philiberta of Savoy on 25 January, 1515 (not on 25 June, as stated by Pastor, *Hist. Popes*, VII, 106), he was to receive Parma and Piacenza as well as Reggio and Modena (Pastor, *Gesch. d. Päpste*, IV-1 [repr. 1956], 72-74).

<sup>13</sup> As time went on, Leo X played a double-dealing diplomatic game, trying to maintain the independence of Milan against the ambitions both of Louis XII and Ferdinand the Catholic (cf. Guicciardini, *Storia d'Italia*, XII, 5, ed. Florence, Salani, 1963, III, 126 ff., and Pastor, *Gesch. d. Päpste*, IV-1 [repr. 1956], 64 ff.).

<sup>14</sup> Dumont, *Corps universel diplomatique*, IV-1 (1726), 173-175; Sanudo, *Diarii*, XVI, 197-202, 223, 292. Very extensive English preparations for an attack upon France had been reported for some time in the Venetian diplomatic correspondence (*ibid.*, XVI, 7, 45, 71-72, 148, 211, 232, 449, 456). For the international complications of the time, see Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 392-393.



delay the cautious Leo, who would have preferred neutrality, quietly agreed to take his place in the league, and made ample funds available to Swiss mercenaries for the defense of the incompetent Duke Massimiliano Sforza in Milan. Despite the tenseness of the political situation, however, there was much talk in the Curia Romana of the opportunities which troubled conditions in the Levant offered for a crusade against the Turks.

One can only wonder how much attention Leo X paid at this time to an interesting memorial which two Camaldulensian monks, Paolo Giustiniani and Vincenzo or rather Pietro Querini, addressed to him concerning papal power, ecclesiastical reform, the geographical extension of Latin Christianity, and the crusade against the Turks. The memorial is called a *Libellus ad Leonem Decimum*. Giustiniani was one of the chief reformers of his Order,<sup>15</sup> and Querini had served his native Venice as an envoy.<sup>16</sup> Empha-

sizing throughout the *Libellus* the need for peace in Europe, the authors insisted to the pope that "now, when the infidels are at odds among themselves, and not only peoples against people, ruler against ruler, but even brother against brother, they wage savage wars with overwhelming hatred of one another, victory is more easily assured you!" Nevertheless the savage enemies of the faith were obsessed with the ambition to dominate and then destroy Christendom. Every year they sought to extend their domain, rob Christians of their freedom, and press them down beneath the harsh yoke of servitude.<sup>17</sup> But once the pope had preached the crusade, "we believe that no one can doubt that all [the Christian princes] will want to accept the terms of a peace or truce and turn their arms against the impious enemies of our faith!"<sup>18</sup> Querini, who had been a diplomat, must have known better than this.

Giustiniani and Querini single out the Janisaries among the Turks and the Mamlüks among the "Moors" as the chief military forces to be reckoned with in the Levant.<sup>19</sup> The Turks are ruled by an hereditary successor of the imperial Ottoman house, but among the "Moors" the Mamlüks not only exercise the exclusive right of bearing arms, but forbid a military career to those who are properly called Moors. From the ranks of the Mamlüks the soldan is chosen who rules over Egypt. The Turks are more powerful than the Mamlüks, owing to the states they have conquered. Indeed, the soldan had scarcely 15,000 men in his fighting forces.<sup>20</sup>

After describing the rough life of the Arabs, Giustiniani and Querini pass on to the Persians,

<sup>15</sup> Cf. Pastor, *Hist. Popes*, X, 454-455, and *Gesch. d. Päpste*, IV-2 (repr. 1956), 628, and Jean Leclercq, *Un Humaniste ermite: Le Bienheureux Paul Giustiniani (1476-1528)*, Rome, 1951. The text of the *B. Pauli Giustiniani et Petri Querini, Eremitarum Camaldulensium, Libellus ad Leonem X. Pontificem Maximum* may be found in G. B. Mittarelli and Anselmo Costadoni, *Annales Camaldulenses*, 9 vols., Venice, 1755-1773, IX, cols. 612-719. The *Libellus* is also called *De officio pontificis*. For guidance on the MSS, and works of Giustiniani, see Eugenio Massa, ed., *Beato Paolo Giustiniani: Trattati, lettere e frammenti*, I, Rome, 1967, who considers the *Libellus* "il più imponente disegno cattolico di riforma della Chiesa nell'età moderna" (p. CXVII). The *Libellus* appears to have been begun before the sixth session of the Lateran Council on 27 April, 1513, the first session held under Leo: "... Lateranense iam celebrari ceptum Concilium, quod te [Leonem X] prosequi velle non dubitamus..." (*ibid.*, col. 652). It was presumably finished soon after 27 June, 1513, when the schismatic Cardinals Bernardino Carvajal and Federico Sanseverino recanted and were received back into the Sacred College, which event is noted as having taken place *proximis diebus* (*ibid.*, col. 710). Giustiniani mentions that he had made a pilgrimage to the Holy Sepulchre in Jerusalem, where he spent three months (*ibid.*, col. 659), and so had at least some first-hand knowledge of conditions in the Levant, on which note Massa, *Trattati*, I, 14, 241, and J. Leclercq, *Un Humaniste ermite*... Paul Giustiniani (1951), pp. 34-37.

<sup>16</sup> *Libellus*, *ibid.*, col. 626: "Dum enim apud eos Reges [Catholice occidentales] ego Petrus pro Venetorum Republica cui tunc inserviebam legatus agerem..." Querini is in fact Vincenzo Querini, who was prominent in the negotiations at Savona in 1507. He entered the Camaldulensian Order on 22 February, 1512, and took the name Pietro. See in general Hubert Jedin, "Vincenzo Querini und Pietro Bembo," in the *Miscellanea Giovanni*

*Mercati*, IV (Città del Vaticano, 1946), 407-424, and reprinted in the collection of Jedin's articles, *Kirche des Glanzens, Kirche der Geschichte*, I (Freiburg, Basel, and Vienna, 1966), 153-166.

<sup>17</sup> *Libellus*, *ibid.*, col. 637.

<sup>18</sup> *Libellus*, *ibid.*, col. 672. Giustiniani and Querini give much attention to the Crusade, which forms an integral part of their ideas of general ecclesiastical reform; on the bold and wide-ranging nature of these ideas, cf. Jedin, "Querini und Bembo," *Misc. Giovanni Mercati*, IV, 410-411.

<sup>19</sup> *Libellus*, *ibid.*, col. 639: "... hos omnes apud Turcas Janizeros, apud Mauros Mamalucos vulgari sermone vocari audivimus... Janizeri enim apud Turcas peritissimi sunt milites; Mamaluchi vero apud Mauros non solum militiam omnem exercent, ita ut arma tractare illis, qui vere Mauri sunt, non permittant, verum etiam ex eorum numero semper eligitur, qui supremam totius gentis illius potestatem habeat..."

<sup>20</sup> *Libellus*, *ibid.*, cols. 639-640.

who nurture an especial devotion to their ruler, the Sophi. Although the Sophi is an infidel, Leo is urged to enlist his aid against the Turks, "for when the Christians attack the Turks from one direction, and this most powerful sovereign [the Sophi] has begun an attack upon them from the other, you will certainly be delivered, most blessed Father, of your enemies." But the good Camaldolesi would do more than rely upon military might, and exhorted Leo to send legates to Egypt in an effort to convert the sultan,<sup>21</sup> for, if he and the major figures in the Mamlūk state were promised some part of the defeated Ottoman empire and if by such inducement they embraced Christianity, would not all the Moors then accept conversion?<sup>22</sup>

If the sultan of Egypt and the Sophi could not be converted to Christianity, assurances must be got from them that they would not join the Turkish sultan in attacking the crusading host. Once the Turks were defeated, neither the Mamlūks nor the Persians would be able to resist the crusaders, nor of course could the petty rulers of the North African littoral:

If the many troops of the Christian princes come together and you make a single army of them, neither the Turkish sultans nor even the whole world could possibly oppose such a force. . . . There is no one who cannot see what the result will be if you added in your surpassing wisdom the capacities of the French, Germans, Spanish, Britons, Hungarians, and Swiss to the resources of Italy.

The bravery and military experience of the Knights of Rhodes were not to be overlooked, for they were the inveterate foe of the Turks, and were accustomed to victory: "If all the other Christian princes, each in accordance with his strength, had shown themselves as tireless in their hostility to the Turks as the single island of Rhodes has done, that impious people would not have grown so strong"<sup>23</sup> Moreover, once the Christian army had begun to fight and the first sign of victory had become manifest, according to Giustinian and Querini, 100,000,000 [*centena millia millium*] Christian subjects of the Turks would rise up and use the arms they did not lack.<sup>24</sup> Obviously Giustinian and Querini have allowed rhetoric to run away with common sense.

When the wall of Islamic impiety had been stormed, a new order would arise on earth, and papal power, to which God had subjected mankind, could extend Christianity to the far reaches of Asia and Africa.<sup>25</sup> But in the event of a successful crusade the papacy would also have to deal with serious problems closer to home. In Greece for example:

Strong medicines must be prepared for the Greeks as for those who suffer from a grievous illness. While some people have become separated from the Roman Church by ignorance or a certain indifference, the Greeks are the only ones who not merely in ignorance but even with a stubborn impiety maintain their dissent from the Roman Church [to the extent] that they do not fear to call the Roman pontiff and all the peoples subject to him bad Christians and heretics. In the cities of Greece where Greeks and Latins live mixed together, if a Greek man marries a Latin wife or a Greek woman marries a Latin husband, the Latin is obliged to live, take oaths, and pray according to the Greek rite. When they have children, the Greek father has recourse to the Greek priests and the Latin mother to the Latin priests, the one unknown to the other, for the purpose of baptism so that there are many who are baptized twice. The Greek does not approach an altar upon which a Latin priest has celebrated the sacred mystery unless he has first provided for repeated ablutions of the altar. These things and many others still worse, which we have seen with our own eyes and heard with our own ears, we regard as clear evidence of their perversity. . . .<sup>26</sup>

Centuries of close contact and the Crusades had obviously not improved Graeco-Latin religious and social relations.

Discussion of the crusade seemed almost as unending as the animus which the Greeks and Latins entertained for each other. The sixth session of the Fifth Lateran Council was held on Wednesday, 27 April, 1513, the first time the conciliar fathers gathered under Leo's presidency. The pope was attended by armed Hospitallers. It was an august gathering, with twenty-two cardinals present, ninety mitred prelates, the ambassadors accredited to the Holy See, and other ecclesiastical and secular dignitaries. Francesco Soderini, then cardinal bishop of Sabina, celebrated the mass, after which Simon de Begno (Begnus), bishop of Modrus in Croatia, delivered a long discourse on the necessity of reforming the Church and the equal necessity of a crusade against the Turks. He spoke of the damage to faith and morals which the centuries had

<sup>21</sup> *Libellus*, *ibid.*, cols. 643, 644.

<sup>22</sup> *Libellus*, *ibid.*, cols. 646-647, and *cf.* col. 648.

<sup>23</sup> *Libellus*, *ibid.*, cols. 648-652.

<sup>24</sup> *Libellus*, *ibid.*, cols. 651-652.

<sup>25</sup> *Libellus*, *ibid.*, col. 654.

<sup>26</sup> *Libellus*, *ibid.*, cols. 664-665.

wrought, the efforts of past councils to achieve reform and harmony in the Church, and of the shattering effects of the Moslem victory in 1453 when Constantinople had gone the way of Jerusalem, Antioch, and Alexandria. The Turks had overrun the empire of Trebizond, the region of the Black Sea, the kingdom of Bosnia, and a good part of Illyricum. Popes Calixtus III and Pius II had done what they could, but the Turks had nonetheless seized the island of Euboea and most of Greece and Epirus.

The Christian world moved from one calamity to another, and the heretic king of Bohemia, George Podiebrad, had added to the woes of a long generation of disaster. "Who is there," Simon asked, "who has not bewailed the fact that the beautiful and rich cities of the East and of Epirus have been snatched by the Turks from Christian hearts and eyes: I say nothing of the ships burned, the galleys lost, our reputation gone. . . ." The Balkans were a scene of ravaged fields, sacked cities, and conquered castles. "Who is there who has not already heard [of these misfortunes], already mourned them unless it be we here in Rome who shut our eyes, listen politely, and just dissemble!" The valor of the Hungarians and the Poles would not suffice to stay the Turkish onslaught. Simon bemoaned the hard-heartedness of (western) Christians, "qui haec non vident, non audiant, non credant." The Turk was an enemy closer, more powerful, crueler than the ancient Carthage which the elder Cato had said must be destroyed. Would Europe wait until the Turkish fleet had occupied Rhodes and plundered Italy? "We must have peace!" he cried, "not with the enemy . . . , but with ourselves!"<sup>27</sup>

<sup>27</sup> *Simonis Begnii, episcopi Modrusiensis, oratio in sexta Lateranensis Concilii sessione, quinto Kalendas Maias habita, MDXIII*, without imprint of place or printer. Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 21-24, vol. XXXI (1877), 9-10, gives a few passages from Simon de Begno's address, which is listed in Carl Göllner, *Turcica: Die europäischen Türkerdrucke des XVI. Jahrhunderts*, I (Bucharest and Berlin, 1961), no. 58, p. 50. Simon was bishop of Modrus from June, 1509, until his death in March, 1536 (Conrad Eubel et al., *Hierarchia catholica medii et recentioris aevi*, III [1923], 247). In public session the archbishop of Reggio in Calabria, Roberto de' Orsini, read the bull *Superna illius ordinatione* (dated 27 April, 1513) enunciating the pope's intention to strive for peace in Europe and to promote the crusade. Raynaldus, ad ann. 1513, no. 25, p. 11, gives most of the text of this bull but omits the incipit. I have read the bull in the contemporary printed copy, which

As if in answer to Simon de Begno's cry for peace the French invaded Lombardy in May, 1513, while Venetian forces marched westward to assist them. But on 6 June the Swiss defeated the French in the hard-fought battle of Novara, and sent them scurrying back once more through the pass of Mount Cenis to the safety of their own soil. The Venetians also retreated.<sup>28</sup> Leo was of course pleased by the turn of events, but Francesco Foscari, the Venetian ambassador to the Holy See, informed his government on 17 June that Leo wanted to see no harm come to the Republic, because he was anxious to unite Italy in the face of mounting pressure from the Turks.<sup>29</sup>

has no imprint of place or printer. Cf. J. D. Mansi, *Sacrorum conciliorum nova et amplissima collectio*, XXXII (Paris, 1902), cols. 657-658, 783-805, where the bull *Superna illius ordinatione* is also given (cols. 792-793). There is an account of the sixth session of the Lateran Council in the diary of Paride Grassi (Cod. Vat. lat. 12, 274, fols. 42 ff.).

<sup>28</sup> Cf. Sanudo, *Diarii*, XVI, 340-341, and ff. Guicciardini, *Storia d'Italia*, XI, 10-12, ed. Florence, Salani, 1963, III, 72-84, has sketched the campaign in some detail, with praise of Swiss heroism. Leo X had furnished 42,000 ducats as a subvention to the Swiss (*op. cit.*, XI, 10, p. 73), and was much relieved by their victory (*Leonis X. regesta*, I, nos. 3134-3135, 3145, 3159-3160, 3162, pp. 182-184, and Bembo, *Epp.*, III, 1-5, 7, in *Opere*, IV, 21-23, letters dated at Rome on 11-13 June, 1513). On 6 August, 1513, Andrea da Borgo wrote from Milan to Alberto Pio da Carpi, imperial ambassador to the Holy See, that Massimiliano Sforza lacked the funds to make his contracted payments to the Swiss, obviously for their recent service against the French (in the collection of Alberto Pio's correspondence in the Lea Library, MS. 414, University of Pennsylvania).

<sup>29</sup> Sanudo, *Diarii*, XVI, 399: ". . . ma non vol [il Papa] però che la Signoria nostra habi alcun danno, et voria unir Italia, perchè le cosse turchesche le preme assai." When the ailing Girolamo Donado, the friend of Julius II, was relieved of the difficult post of Venetian ambassador at the Curia Romana on 19 October, 1511, Francesco Foscari had been elected by the Senate as his successor (Arch. di Stato di Venezia, Sen. Secreta, Reg. 44, fol. 69<sup>v</sup>). Foscari's commission is dated 16 December, 1511 (*ibid.*, fols. 88<sup>v</sup>-90<sup>v</sup>). Leo X rapidly became less friendly toward Venice, as Foscari wrote his government on 25 June, 1513 (Sanudo, XVI, 426, and cf. cols. 519, 587). Foscari was replaced in the Roman mission by Pietro Lando in October 1513 (*ibid.*, XVI, 587, and XVII, 22, 162, 205); his commission is dated 23 September, 1513 (Arch. di Stato di Venezia, Sen. Secreta, Reg. 46, fols. 7-8<sup>v</sup>). The Venetians rather stubbornly refused reconciliation with the Emperor Maximilian unless he restored Verona and Vicenza to them, an attitude which exasperated Leo X, who insisted that Venice had nothing more to hope for from defeated France (Sanudo, XVI, 513). The suggestion was rather irresponsibly made in Rome, however, that if the Vene-

Four days before Foscari prepared this dispatch, Leo had received the Polish embassy of obedience in a public consistory on 13 June. The embassy was headed by John Laski, archbishop of Gniezno, who made the address before the throne, dilating on the Turkish slaughter of Christians and imploring his Holiness and the Christian princes to come to the aid of the harassed kings

tians were too hard pressed by their enemies, including the pope, they might turn to the Turks for aid! (*ibid.*, XVI, 557): "... e quando venetiani vederà tutti contra, chiamerà turchi in suo soccorso. ...". According to a presumably unpublished letter of Alberto Pio da Carpi, imperial ambassador in Rome, "sanctitas quoque domini nostri vere Venetos odit et dixit mihi inter loquendum quendam astrologum beatitudinis sue predixisse ipsum nunquam concordem nec amicum Venetorum futurum fesse!" (letter dated at Rome on 16 August, 1513, MS. 414 in Lea Library, Univ. of Penna.). At a meeting of the Venetian Senate in December, 1513, when bad news came from Rome, there was actual agreement for the moment that the Signoria should ask the Turk for aid (Sanudo, XVII, 365): "Erano lettere cavate di Roma, e tutti chiedeva si dimandò aiuto al Turco!" Cf., also, *ibid.*, XVII, 424.

My notes on the *Senatus Secreta*, Reg. 46 (1513-1515) reveal no record of the Senate's willingness to seek direct aid of the Sultan Selim, but on 2 January, 1514 (*more veneto* 1513) the Signoria wrote the Venetian ambassador in Rome of the sultan's power and insatiable thirst for conquest and conceived of an attack upon Italy as quite possible (*ibid.*, Reg. 46, fol. 37): "Et perché ne scrivete sua Santità havervi parlato cum qualche alteratione circa Turchi, anchor che la cosa s'è assai manifesta: pur non volemo restar de dirvi che non po chi cum ragione vuol parlar in questa materia indicar altro se non che el Signor Turco habi ad invader Italia, perché ultra la voce che da ogni canto risono de li apparati el fa, etiam la iuvenil età et la ferocet et bellicosissima natura, la summa avidità de farsi Signor dil tuto, che per quanto ciascuno afferma a la grandezza del appetito suo il mondo li e un regno, et lo haversi pacificato cum tutti quelli chel poteva dubitar potessero ritardarlo, ma soprattutto vedendo Italia et la Christianità in divisione et il stato nostro che tanti anni esta antemural et cum tanto oro et sangue ha ritardata la rabie et furor di suo passati esser sta da li principi christiani talmente attenuato lo invita et astrenze ad tuor la impresa, et quanto sia horrenda la potentia sua et quello se debi existimar debi esser il successo suo non lo diremo, perché la Santità sua sapientissima ben lo po considerar, et tenemo per certo che il precipuo remedio sia che il Signor Turco intenda sua Beatitudine havere abbracciati et essersi scoperta in nostro adiuto, ne taceremo che la Cesarea Maestà come ben sa sua Santità e quella che cercha et non mancha hora de irritar et provocar el Turco a danni nostri. Proveda adunque lei, che merittissime è collocata in quella Sede, faci che le arme se deponino, non permettessi esser menata in tempo che ad una sì grave egritudine li remedii vogliono esser tagliardi et celerrimi. ..."

of Poland and Hungary.<sup>30</sup> Laski's eloquence was so devastating, according to the report in Sanudo, that the pope burst into tears.<sup>31</sup>

After Novara, Louis XII realized that it was going to be very difficult to regain the Milanese duchy and restore his hegemony over Lombardy. When the seventh session of the Lateran Council was held on Friday, 17 June, 1513, it was presided over by a jubilant pope, who found the Swiss victory an auspicious beginning to his reign. After a low mass one Balthazar del Rio preached the opening sermon, and assured the cardinals, bishops, and ambassadors present that the faith would win out over the Turks, among whom there was a widespread prophecy that Islam could only survive until about the year 1500.<sup>32</sup> But such prophecies had had a wide currency for generations, and del Rio's assurance probably did

<sup>30</sup> *Leonis X. regesta*, I, no. 3149, p. 183, from the ceremonial diary of Paride Grassi. On John Laski, archbishop of Gniezno (1508-1531), see Conrad Eubel et al., *Hierarchia catholica medii et recentioris aevi*, III (1923), p. 204, note 3, under *Gneznen.*, and cf. *Regesta*, I, no. 4929, p. 303; Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 32 ff., vol. XXXI (1877), 13 ff.; and Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 403-404. The Turkish threat to Dalmatia, Croatia, Bosnia, and Hungary from 1511 to 1520 is depicted in the contemporary diary of Marcantonio Michiel, who notes frequent Turkish raids (for the pertinent passages in the diary see Simeon Ljubić, ed., *Commissiones et relationes venetae*, I [Zagreb, 1876], 132-143 [in the *Monumenta spectantia historiam slavorum meridionalium*, VI]).

<sup>31</sup> Sanudo, *Diarii*, XVI, 385: "Eri, a di 12 [actually on the 13th?], li oratori di Polana ebbero audientia: quel episcopo fece una degna oratione, prestandoli ubedientia al Papa et implorando ajuto contra Turchi: el Papa et altri lacrimò." In the edict proroguing the seventh session of the council to 17 June, 1513, Leo had announced Laski's coming to Rome (*Edictum S. domini nostri Leonis Pape X. super prorogatione Lateranensis Concilii*, dated at Rome on 20 May, 1513, without imprint of place or printer). Raynaldus, *Ann. eccl.*, ad ann. 1513, no. 28, vol. XXXI (1877), 12, alludes to this edict.

<sup>32</sup> Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 404-405, and cf. Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 41-42, vol. XXXI (1877), 17-18, who does not mention del Rio's sermon, which was printed at Rome by Jacopo Mazocchi on 8 July, 1513 (Göllner, *Turcica*, I [1961], no. 60, p. 51). Balthazar del Rio became bishop of Scala in southern Italy on 22 October, 1515, and died in 1540 (Conrad Eubel et al., *Hierarchia catholica medii et recentioris aevi*, III [1923], 294). Cf. Mansi, *Sacra concilia*, XXXII (Paris, 1902), cols. 658, 659, 805-827, and Paride Grassi, *Diarium*, in Cod. Vat. lat. 12, 274, fols. 57-59.

little to remove the doubt which existed in the sophisticated minds of curial officials.

The Swiss victory also brought the troublesome schism to an end. On 27 June the former Cardinals Bernardino Carvajal and Federigo Sanseverino, in the penitent garb of simple priests, acknowledged themselves guilty of schism in a humiliating ceremony of abjuration performed before a public consistory at the Vatican. They rejected the Council of Pisa, and accepted all the censures of Julius II, including their deprivation of the cardinalate. Carvajal was said by a witness to have shaken like a leaf. But Leo X gave them absolution, and restored them to their honors and dignities. They also received back such benefices and properties as had not been granted to others. They even dined alone with the pope, and finally left the palace, says Paride Grassi, as though they had won the great struggle in which they had challenged papal authority (*quasi ipsi fuerint victores*).<sup>33</sup> However that may be, Leo had the satisfaction of ending the schism which had caused his great predecessor many anxious months. The rebellious Council of Pisa was now only an unpleasant memory in the Curia Romana, and the French finally recognized the Lateran Council as the true and canonical assembly of ecclesiastical authority and wisdom.<sup>34</sup>

But it proved harder to make secular than ecclesiastical peace, and it was not until a Spanish-German army defeated the Venetians near Vicenza on 7 October, 1513, that they finally abandoned their alliance with France. On the advice of Paride Grassi, the papal master of ceremonies, Cardona's victory was not officially celebrated in Rome, because the good citizens of the Republic

were neither schismatics nor enemies of the Church.<sup>35</sup> However, the Venetians were now obliged to relax their claims upon the Emperor Maximilian for the return of Verona and Vicenza, and were quite willing to allow the Curia Romana to arrange peace terms. Leo X directed Cardona to cease all offensive action against the forces of the Republic while negotiations were in progress.<sup>36</sup>

Pope Leo was anxious to arrange peace on all fronts, desiring the end of hostilities between England and France as well as between Venice and the Empire. On 11 October (1513) Leo wrote Henry VIII congratulating him upon the news the latter had sent to Rome of English victories over both the French and the Scots. Leo expressed distress "that so much Christian blood had been shed," and said that he looked toward the reconciliation of England with France and Scotland: then Henry might employ his military might in suppressing the ferocity of the Turks, who were depopulating eastern Europe (*Pannoniae Sarmatiaeque regna*), as Italy herself, inadequately defended, watched with growing apprehension the approach of the Turks to her own shores.<sup>37</sup>

Some five weeks before this, moreover, Leo X had addressed an encyclical letter (on 3 September, 1513) to the kings and peoples of Hungary,

<sup>33</sup> Cf. Raynaldus, *Ann. eccl.*, ad ann. 1513, no. 78, vol. XXXI (1877), 34; Sanudo, *Diarii*, XVII, 147 ff., 157 ff., 170 ff., 205, 207 ff., 217.

<sup>34</sup> *Leonis X. regesta*, I, no. 5186, p. 320, and Bembo, *Epp.*, V, 28, in *Opere*, IV, 41, brief dated at Rome on 3 November, 1513; Sanudo, *Diarii*, XVII, 227; 307-308, doc. of 3 November; *Lettres du roy Louis XII*, IV (Brussels, 1712), 213-214. According to a Venetian document published by Vladimir Lamansky, *Secrets d'état de Venise*, S. Petersburg, 1884, pp. 43-44, 411-412, the Council of Ten was willing on 14 December, 1513, to see an attempt made upon Maximilian's life: ". . . ut vadat [frater Joannes de Ragusio, the proposed assassin] ad faciendum experientiam in personam imperatoris."

<sup>35</sup> *Leonis X. regesta*, I, no. 4924, p. 303, and Bembo, *Epp.*, V, 19, in *Opere*, IV, 39-40; Raynaldus, *Ann. eccl.*, an ann. 1513, no. 60, vol. XXXI (1877), 26-27. The English had shed a good deal of Scottish blood on Flodden Field on 9 September, 1513, including that of King James IV (Sanudo, *Diarii*, XVII, 233-236). By a dispatch of 15 October, 1513, the new Venetian ambassador in Rome, Pietro Lando, informed his government that "[il Papa] vol con questa pace unir la Cristianità a una liga contra Turchi" (Sanudo, XVII, 227), and reported from Rome on 10 March, 1514, that there were said to be 25,000 Turks in Bosnia being prepared for an invasion of Friuli . . . , "sichè per tutta Roma si parla che Turchi vien in Italia" (*ibid.*, XVIII, 32).

<sup>33</sup> Pastor, VII, 54-59, and append., no. 5, pp. 449-450, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 37-41, and *ibid.*, IV-2, append., no. 6, p. 679, and see Sanudo, *Diarii*, XVI, 400, 415, 429-430, 432, 479-481. Sanseverino, "che sta in palazzo del Papa," used such influence as he recovered with the return of his hat to promote French interests at the Curia Romana (*ibid.*, XVI, 450, and cf. col. 499). Cf. Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 44 ff., vol. XXXI (1877), 19 ff., and the *Lettres du roy Louis XII*, IV (Brussels, 1712), 172.

<sup>34</sup> Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 85-89, vol. XXXI (1877), 37-39; Pastor, VII, 66-68, 71-72, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 45-46, 49. Louis XII agreed on 26 October to recognize the Lateran Council, to which his adherence and so his reconciliation to the Holy See were announced on 19 December at the eighth session of the council (cf. also Sanudo, *Diarii*, XVII, 414, and Guicciardini, *Storia d'Italia*, XII, 3, ed. Florence, Salani, 1963, III, 119-121).

Poland, Bohemia, Prussia, and Russia, seeking to incite them to war against the Turks, who within the last four centuries (he said) had overrun Cilicia, Lycia, Armenia, Paphlagonia, Phrygia, and Lydia, once thriving regions in the Christian world of Asia. In Europe they had subjected to their impious arms all Greece and Serbia, Bulgaria, Bosnia, "and in the memory of our fathers they have taken by assault Constantinople, the capital of Thrace and the eastern empire, once the seat of the great Constantine and of so many faithful emperors." They had profaned sacred shrines erected at enormous expense, among others of course the Church of Hagia Sophia; they had defiled icons of Christ and the saints; violated virgins and matrons; and reduced the nobility of that ancient and populous city by slaughter and servitude.

Leo had learned from various trustworthy sources that the Sultan Selim, who had dethroned his father and slaughtered most of his brothers and their sons, had resolved with his Tatar allies first to destroy Hungary, up to now Europe's chief line of defense (*antemurale*), and then to destroy all the rest of Christendom. But Leo was sending the Cardinal Thomas (Tamás) Bakócz to Hungary as *legatus de latere* to help sustain his countrymen and prepare the way for the crusade. Those who joined the "sacred expedition" would enjoy the usual indulgence and the plenary remission of their sins "such as our predecessors granted to those who set out in defense of the Holy Land. . . ." A tithe was imposed upon all ecclesiastical incomes to help finance the crusade, and anathema proclaimed against those, of whatsoever dignity or rank, who diverted funds collected for the crusade to any other purpose. Finally, the Christian princes must of course make peace with one another as the indispensable prelude to the projected expedition against the Turks.<sup>38</sup> It took the Cardinal Bakócz a long time to get to Hungary, however, and when he did, events he could not control led, as we shall see, to a social revolution of disastrous proportions.

The eighth session of the Fifth Lateran Council was held on Monday, 19 December, 1513. Leo X presided. Some twenty-three cardinals were present as well as an impressive array of arch-

bishops, bishops, ambassadors, and others. It was at this session, incidentally, that the ancient Christian dogma of the immortality of the soul was affirmed against the assumed views of Pietro Pomponazzi, who was then in Bologna. In the opening discourse, which followed the celebration of mass, the Hospitaller Giovanni Battista de Gargha of Siena appealed to the pope and the council for aid against the Sultan Selim, *sectae Mahumetanæ immitis tyrannus*, who had prepared a great fleet and assembled innumerable troops and cannon for an attack upon the island of Rhodes. Giovanbattista emphasized the island's strategic approaches to Asia Minor, Syria, Egypt, and the Black Sea. He implored the Christian princes to awaken from their perilous slumber, take up arms on behalf of the Church, and no longer tolerate the Turkish retention of either the Holy Sepulchre or Constantinople, the new Rome. Asia, Africa, Egypt, and a good part of Europe lay desolate without law, social stability, or Christian fellowship. Famous churches had fallen into Turkish hands. Christians had been slaughtered and humiliated. These facts, said the orator, had been known for years. But what now should be said of the constant appearance of Turkish ships on the Tyrrhenian Sea? Was it not shameful that they could even raid the shores of the Roman campagna?<sup>39</sup> At this point the pope probably

<sup>38</sup> Gargha's discourse was printed, presumably in 1514, as *Oratio in octava sessione Lateranensis Concilii, una cum obedientia Magni Magistri Rhodi: Oratio Ioannis Baptistae Garghae Senensis equitis Hierosolymitani habitæ apud Leonem X. Pontificem Maximum . . .*, without imprint of place or printer; Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 85, 92, 98-99, vol. XXXI (1877), 37, 39-40, 42-43; C. J. Hefele, J. Hergenroether, and H. Leclercq, *Histoire des conciles*, VIII-1 (Paris, 1917), 413-416; Pastor, VII, 71, and *Gesch. d. Päpste*, IV-1, 49 who incorrectly places 19 December "am Sonntag." Sanudo frequently speaks of Turkish naval and military preparations during 1513; for the month of December, see the *Diarii*, XVII, 398, 426, and cf. cols. 471, 517, 538. Obviously one cannot believe all the rumors and reports which Sanudo has preserved in his so-called diaries, but there is no doubt that Turkish corsairs with galleys as well as *juste* were active in Italian waters (*ibid.*, XVIII, 278-279, 346-347). The imperial ambassador to the Holy See, Alberto Pio da Carpi, mentions Turkish galleys on the Tyrrhenian Sea in a letter to Maximilian dated 20 June, 1516 (Lea MS. 414, Univ. of Penna.), at which time Moorish pirates from North Africa were especially active (Bembo, *Epp.*, XII, 8-13, in *Opere*, IV, 103-104, and Raynaldus, ad ann. 1516, nos. 47-54, vol. XXXI, 127-128).

The Turkish peril and the necessity of peace in Europe to organize a crusade was a major theme of the eighth

<sup>39</sup> *Leonis X. regesta*, I, no. 4347, pp. 264-265, with a substantial portion of the text in Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 108-115, vol. XXXI (1877), 45-48, and cf., *ibid.*, nos. 63 ff., pp. 28 ff.

noded agreement. Members of the Curia had been asking similar questions for some time.

On 28 December, 1513, Leo X wrote the Emperor Maximilian seeking to recall him from the arms and ardor of hostility that he bore against those "whom you call your enemies," and emphasizing his desire and that of all the cardinals to see the Christian princes reconciled in peace and mutual trust. Otherwise the Turks, who were preparing for war, would certainly crush the Christian commonwealth. Italy was in peril. Maximilian was to bear in mind that as emperor God had made him protector of all His people. It behooved Maximilian not so much to think of whom he might subject to his authority as to take care that all Christians were made safe by his imperial effort. Maximilian must therefore first make peace [with the Venetians and the French] even if the terms were not quite what he might wish. The Turk, the perpetual enemy, took an "incredible joy" (*incredibilis laetitia*) in

the strife of Christians with one another. But God would reward Maximilian ten- and a hundred-fold for the generosity he might now show his Christian opponents.<sup>40</sup>

On the following day Leo wrote the seven imperial electors that he was sending each of them a copy of his letter to Maximilian, and sought to enlist their support both for peace in Europe and the protection of Christendom against the Turk.<sup>41</sup> He addressed similar admonitions to Ferdinand the Catholic, Henry VIII, and King Ladislas II of Hungary and Bohemia, rather unnecessarily reminding poor Ladislas that he above all must hearken to the papal exhortation since he was the closest to the danger, and the Turks had chosen him as the prime object of their attacks.<sup>42</sup>

Actually one would think that fear of the Sultan Selim might have diminished during the latter part of the year 1513 as the news reached Venice and Rome of the terrible plague which had ravaged Istanbul during July and August. The shops had all been closed, and the number of dead was described in a Venetian dispatch as a "cossa stupenda." The sultan even consented to a four months' truce with the Hungarians, against whom he had been threatening a great campaign for months.<sup>43</sup>

But during the reign of Leo X there were few periods when one was allowed to forget the Turkish threat. Giovanbattista de Gargha appeared before the papal throne again at a consistory held on 6 March, 1514, when Leo received the Hospitallers' embassy of obedience. "You have aroused the highest opinion of yourself . . . , holy Father," Gargha told Leo in another prepared address,

and all men hope that you will undertake the war against the Turks with no less spirit than it was announced and decided upon four years ago by Julius

session of the Lateran Council, concerning which the bull *Ad omnipotentis* was publicly read in the Lateran basilica (Mansi, *Sacra concilia*, XXXII [Paris, 1902], cols. 843-845), and presumably printed in Rome soon after 19 December (1513): *Bulla sive cedula material* [sic] *universalis pacis et destinationis legatorum de latere per S. dominum nostrum, dominum Leonem X. Pont. Max., sacro approbante concilio edita, lecta per reverend. patrem dominum Archiepiscopum Senensem in octava sessione in Lateranensi basilica celebrata*, without imprint of place or printer. The reform of the Curia, also regarded as a prerequisite for the crusade, was provided for by the bull *In apostolici culminis* (Mansi, XXXII, 845-846), also read at the eighth session of the Council: *Bulla seu cedula reformationis officialium Romane Curie lecta in VIII. sessione sacri Lateranensis Concilii per reverendum patrem Episcopum Taurinensem per S. D. N. B. Leonem X. Pont. Max., sacro approbante Concilio edita*, without imprint of place or printer. The immortality of the soul was asserted by the bull *Apostolici regiminis*; it was read in the basilica by John Laski, archbishop of Gniezno: *Bulla seu cedula in materia fidei edita per S. dominum nostrum, dominum Leonem X. Pont. Max., . . . lecta publice per reverendum patrem, dominum Archiepiscopum Gucznensem, oratorem Serenissimi Regis Polonie, in octava sessione in Lateranensi basilica celebrata*, without imprint of place or printer. There are original copies of these three bulls in the Lea Library of the University of Pennsylvania. They are obviously all products of the same press.

On the intellectual background and purpose of the bull *Apostolici regiminis* of 19 December, 1513 (of which the text may most conveniently be found in Mansi, *Sacra concilia*, XXXII cols. 842-843), see the suggestive article by Felix Gilbert, "Cristianesimo, umanesimo e la bolla 'Apostolici Regiminis' del 1513," in *Rivista storica italiana*, LXXIX (1967), 976-990.

<sup>40</sup> *Leonis X. regesta*, I, no. 5971, p. 379; Bembo, *Epp.*, VI, 22, in *Opere*, IV, 47-48; Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 101-103, vol. XXXI (1877), 43-44.

<sup>41</sup> *Leonis X. regesta*, I, no. 5972, p. 380; Bembo, *Epp.*, VI, 23, in *Opere*, IV, 48-49; Raynaldus, *Ann. eccl.*, ad ann. 1513, no. 104, vol. XXXI, 44, and *cf.* the rather confused mélange of factual data in Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 503.

<sup>42</sup> *Leonis X. regesta*, I, no. 5984, p. 380; Bembo, *Epp.*, VI, 25, in *Opere*, IV, 49; Raynaldus, *Ann. eccl.*, ad ann. 1513, nos. 105-106, vol. XXXI, 44-45.

<sup>43</sup> Sanudo, *Diarii*, XVII, 37-38, dispatches dated at Istanbul on 25 July and 6 August, 1513, from the Venetian bailie Nicolò Giustinian, and *cf.* *ibid.*, cols. 79, 110, 159.

[11], whose successor you are. But it would have been most difficult for Julius. No one doubts that it will be by far easiest for you, for by age you are much more able to stand the exertions than he could have done. . . . But you must not delay any longer, holy Father, for the Turks have prepared such a fleet as has never been seen before, and the passage from Greece to Italy is all too short. We must attack the enemy rather than wait for them to attack us. . . .<sup>44</sup>

Anti-Turkish oratory was a good way to open a session of the Fifth Lateran Council, where the crusade was under constant discussion. Fear of the Turk sometimes inspired eloquence, and the barbarity of the Turk was a safe theme, for everyone was opposed to the sultan and the pashas. At a solemn ecclesiastical gathering it was entirely appropriate to extol the blessings of peace and the horrors of warfare among Christians. It was not politic, however, to specify the terms upon which one prince might justly be reconciled with another. This was the function of the diplomat, whose chief armory was the appendix of secret articles he was always prepared to add to a treaty. The tenth session of the Lateran Council opened 4 May, 1515. There was some tension in the lordly congregation of twenty-four cardinals, twelve archbishops, sixty-one bishops, curial officials, and the members of the diplomatic corps in Rome, for every week the prospect was increasing of a French invasion of Italy. In the meantime the business of the Church must go on.

Mass was celebrated by the Polish Archbishop John Laski, who had given such a moving exposition of the Turkish danger in a public consistory two years before (in June, 1513). The opening discourse was given by the aged Stefano Taleazzi, who held the archiepiscopal title of Patras in Greece, and had been the bishop of Torcello near Venice for almost thirty years. Stefano was well known in Rome for his anti-Turkish oratory. As early as December, 1480, when he was archbishop of Antivari, he had preached a sermon in S. John Lateran on the necessity of the crusade, which the contemporary diarist Jacopo Gherardi da Volterra informs us was well received.<sup>45</sup>

Stefano Taleazzi is also known to have delivered some forty-six sermons at religious ceremonies, often in the papal presence, during the next three decades or so. A curial prelate, Stefano had lived mostly in Rome through the years, and Sixtus IV had employed him on at least one important diplomatic mission. Under Alexander VI he became a papal chaplain. Traveling back and forth between his native Venice and Rome—and in both places he heard a good deal about the Turk—Stefano quickly became and always remained a strong advocate of the crusade. In addresses made before Innocent VIII on 3 June, 1487, and again on 20 April, 1492, he had lamented the failure of the Christian princes to take up arms against the Turks, who continued their career of conquest without abatement. On 1 November, 1492, Stefano had urged the crusade and the vindication of the Christian name upon Alexander VI, of whom he seemed to entertain high expectations. From February to late August, 1500, while Alexander was planning a crusade, Stefano had composed three interesting tracts with general considerations and specific proposals for organizing an expedition. When nothing came of his efforts, he submitted his memoranda to the Curia Romana again in 1513, with a new dedication to Leo X.<sup>46</sup>

Now in addressing the tenth session of the council (on 4 May, 1515), Stefano Taleazzi dwelt

as a *vir maioris elegantie quam doctrine*, and Gherardi also refers to a sermon which Stefano gave in S. Peter's on 1 January, 1482, in the presence of Sixtus IV: "Stephanus vero Teliacius Venetus, archiepiscopus Antiharensis [1473-1485], orationem habuit, qui quantum alias in eodem munere dicendi fuerat commendatus, tantum presenti actione damnatus fuit . . ." (*ibid.*, ad ann. 1482, p. 85). Apparently Stefano's oratory was not always a success. His anti-Turkish sermon of 27 December, 1480, given in S. John Lateran, was printed immediately: *Sermo habitus in materia fidei contra Turcorum persecutionem ex solemnitate gloriosi apostoli Ioannis*, Rome: [Steph. Planck], 1481 [1480]. Considering the fact that the Turks held Otranto at the time Stefano gave this sermon, we can understand how he made a greater impression with it than most of his other lucubrations seem to have achieved.

Although Stefano Taleazzi enjoyed the favor of Sixtus IV and Alexander VI, at the time of the League of Cambrai he was excommunicated on 12 October, 1509, for the non-payment of tithes (Sanudo, *Diarii*, IX, 245).

<sup>46</sup> See the article by Bernardino Feliciangeli, "Le Proposte per la guerra contro i Turchi presentate da Stefano Taleazzi, vescovo di Torcello, a Papa Alessandro VI," *Archivio della R. Società Romana di Storia Patria*, XL (Rome, 1917), 5-63.

<sup>44</sup> *Oratio in octava sessione Lateranensis Concilii* [see, above, note 39] . . . : *Oratio Ioannis Baptistae Garghae . . . in obedientia praestanda apud Leonem X. Pont. Max.* (1514). Cf. Mansi, *Sacra concilia*, XXXII (Paris, 1902), cols. 659, 660, 831, 850 ff.

<sup>45</sup> Jacopo Gherardi, *Diario Romano*, ad ann. 1480, ed. Enrico Carusi, *RiSS*, new ed., XXIII, pt. 3 (Città di Castello, 1904), 33, where Stefano is, however, described



on the unity of the Church under papal authority, happily restored after the Gallican schism but soon to be disrupted by the Lutheran revolt. He emphasized the desperate need for ecclesiastical reform, which had to be effected before the crusade could be put in motion. Finally he turned to the pope,

you who have the plenitude of power within yourself . . . : by your decree true reform both in spiritual and temporal matters will have to spread everywhere in the world: take up therefore the twice-sharpened sword of divine power entrusted to you, and order, command, decree that universal peace and social union be maintained among Christians for at least ten years . . . since our enemy [the Turk] like a ferocious dragon moves forward in haste to devour us!<sup>47</sup>

Amid his learned and lugubrious reflections on creation and redemption, the mystery of Christ's incarnation, the perversers of divine law and idolaters, and the mission of the Church as the City of God—the Lateran Council was going to reform and protect the Church against all enemies of the faith—Stefano dilated one by one on the Turkish conquests of Greek lands and the terrifying occupation of Otranto in 1480. Here he described the Turkish danger in almost the same words as he had employed thirty-five years before in the Lateran basilica when in December, 1480, he had warned Sixtus IV of the perilous plight of Christendom. Probably very few, if any, of his auditors realized he was reusing the text. In 1480 the Turks were in Otranto; in 1515 they were ranging the Tyrrhenian Sea. But the times had changed, and men's fears had changed with them. Taleazzi was applauded for his sermon in 1480. In 1515 he was not. But as an old man he was less hopeful of something really being done to stop the Turk. Indeed at the end of the third tract which he had prepared in 1500 for Alexander VI and had resubmitted in 1513 to Leo X, Taleazzi asks pardon for the inadequacy of his detailed outline of the men, money, and material necessary to proceed against the Turk, because he now entertained the "suspicion that nothing will be done" (*suspicio quod nihil fiet*).<sup>48</sup>

<sup>47</sup> *Oratio habita in decima sessione* [1515], pp. Ci-Cii; Raynaldus, *Ann. eccl.*, ad ann. 1515, nos. 7-9, vol. XXXI (1877), 92-94; Feliciangeli, "Proposte per la guerra contro i Turchi," pp. 22-23. Cf. Mansi, *Sacra concilia*, XXXII (Paris, 1902), cols. 662, 916-929.

<sup>48</sup> Feliciangeli, "Proposte per la guerra contro i Turchi," pp. 29, 63.

Quite as inadequate for the practical furtherance of plans for the crusade was his blithe assumption that the pope in the plenitude of his power could impose peace upon the princes. But Taleazzi did his best, and enlivened his discourse with the usual violations of virgins, screams of children, laments of matrons, and the slaughter of Christians or their sale into slavery.<sup>49</sup> He spoke, however, like a voice from the past. His unadorned style evoked no praise on this occasion; his arguments lacked classical illustrations; and his plea for ecclesiastical reform reminded members of the Curia that they would be the first to be reformed. Although usually resident in Rome, Stefano was a good Venetian, and when he returned home he doubtless heard a good deal about the Turkish menace to Venetian ships and trading stations in Greece and the Aegean islands.

For more than half a century no power in Europe had put up a more determined and costly resistance to the Turk than Venice although she had done so for reasons that had nothing to do with Christianity. The Turkish advance weighed heavily on the Venetian mind. Schoolboys learned lists of the Christian losses, and statesmen, diplomats, and historians kept more extensive lists at hand for reference.<sup>50</sup> Time and experience

<sup>49</sup> *Oratio habita in decima sessione, die quarta Maii, MDXI, per reverendum patrem dominum Stephanum, archiepiscopum Patracensem*, without imprint of place or printer. Taleazzi's sermon is also given in J. Hardouin, *Acta conciliorum*, IX (Paris, 1714), 1784-1792, and Mansi, XXXII, cols. 916-929. Usually resident in Rome, Taleazzi had been replaced by Girolamo di Porzia in the see of Torcello (Eubel, *Hierarchia catholica*, III [1923], 315), "el qual ha otenuto domino Hironimo di Porzia episcopo novo publicato in concistorio, licet il vescovo vecchio [Taleazzi] sia vivo, ma l'ha renoncato, et è a Roma con il suo titolo arziescopo di Patras" (Sanudo, *Diarii*, XVIII, 151). With the obviously wrong date 4 April for 4 May, 1515, Sanudo, XX, 194, records a dispatch from Marin Zorzi (Giorgi), Venetian ambassador in Rome, received in Venice on 9 May: "Questa mattina siamo intrati cum la Santità del Pontifice nel Concilio. . . . La prima cosa, fu cantata la messa per uno episcopo orator del re de Polonia; da poi fu fatta una prolisa oratione per el vescovo vecchio olim de Torzello, ne la qual se portò bene atenta la grandezza de li anni sui . . . !" The aged Stefano was back in Venice on 1 July, 1515, concerned about the affairs of Torcello (Sanudo, *Diarii*, XX, 350). On the tenth session of the council, see Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 464 ff., who seem to know little or nothing about Taleazzi.

<sup>50</sup> Cf., for example, Bibl. Apost. Vaticana, Cod. Ottob. lat. 2204, fols. 71r-78v: "Tutti li acquisti de' Turchi così di terra come di mare della Repubblica Veneta colli

taught the Venetians how to get along with the Turks, but they never found it an easy matter. Thus on 16 May, 1513, shortly after Leo X's accession, the Venetian Senate by a vote of 165 to five authorized the Collegio to spend up to 200 ducats on a gift for Iachia Pasha, the sanjaq of Bosnia, "dal qual po proceder assai bene, tenendolo amico et benivolo."<sup>51</sup> But while the Venetians were looking for some advantage from the purchased friendship of Iachia Pasha, their shipping in Greek waters was being harassed by the Turkish corsair whom they knew as Caramassan, whose activities the Ottoman government apparently made little effort to restrain. But a report of 10 June from Corfu describes how five Venetian ships (two galleys from Candia and three *juste* from Corón) swept Caramassan from the sea and captured the three *juste* with which he plied his trade. The corsair fled into the mountains, "and so the said galleys arrived here at Corfu yesterday, with the high honor of having achieved this victory over so famous a corsair."<sup>52</sup>

High honor it may have been, but the struggle with the Turk, whether in diplomacy or warfare, was unremitting, and Venice was no match for the Ottoman empire. As the Republic lost ground through the years, it became clear to everyone that only France and England, Spain and the German empire were capable of protecting the Christian front against the attacks of Islam. At this point we may recall Julius II's convocation of the Fifth Lateran Council to combat the schism of the Cardinals Carvajal and Sanseverino, effect

suoi tempi," which comes down to about the year 1463 (cf. fol. 77r), a carelessly written MS. of the mid-seventeenth century dealing with Turkish history and affairs.

<sup>51</sup> Arch. di Stato di Venezia, Sen. Secreta, Reg. 45, fol. 124r.

<sup>52</sup> Sanudo, *Diarii*, XVI, 433. Turkish harassment of the Greek islands was constant (*ibid.*, XVIII, 359), and Moslem corsairs, especially from North Africa, were harrying the Italian coasts (cf. Hefe, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 [1917], 504). In April, 1518, Moslem corsairs from North Africa (*Mori*) came to the mouth of the Tiber, seized all the wine ships, and sent the Cardinal Raffaele Riario, who was then at Ostia, scurrying back to Rome in terror (Sanudo, *Diarii*, XXV, 366, and cf. col. 460). Some months later two Turkish *juste* captured a papal galley (*ibid.*, XXVI, 93, 142, 165, 212, 213). Corsairs were also active in Sicilian waters (*ibid.*, XXVI, 19, 38). Corsairs, presumably Christians, were also a problem for the Turks, who accused the island dynasts of the Archipelago of abetting them (*ibid.*, XXV, 154, 158, 182). The sultan also tried to destroy Turkish corsairs (*ibid.*, XXVI, 194).

needed reforms in the Church, and take steps which might lead to the Crusade. In May and June, 1513, soon after his election, Leo X established or reorganized three commissions or deputations of cardinals and other prelates charged with preparing, for consideration and action by the conciliar fathers, material relating to the establishment of peace in Europe as well as the reform of offices and personnel in the Curia Romana.<sup>53</sup>

But the tired Signoria of Venice was more interested in peace with the Turk than the concord of the Christian princes, and on 17 October, 1513, the Venetians renewed their truce with the Sublime Porte. It might well be, as one of the pope's friends wrote the young Lorenzo de' Medici (on 16 August, 1514), "our lord [the pope] remains very well, thanks to God, and does nothing else than make plans for the expedition against the Turks, and he says he wants to go in person."<sup>54</sup>

<sup>53</sup> Cf. Sanudo, *Diarii*, XVI, 359-361, on which cf. *Leo X. requests*, I, no. 2055, p. 154, from Paride Grassi, entry dated 13 May, 1513. A schedule dated 3 June, 1513, identifies the membership on the three commissions, and defines their threefold purpose as being: (1) to provide for peace in Europe and the eradication of schism; (2) to reform the Curia Romana and its officials; and (3) to arrange for the abrogation of the French Pragmatic Sanction (*Tres deputaciones facte per S. dominum et patrum reverendissimorum dominorum Cardinalium et prelatorum pro Concilio electorum una cum adiunctis per Sanctitatem suam super diversis materiis et negotiis tractandis et expediendis in Concilio Lateranensi pro facili expeditione et universali cognitione gerendum in co.*, dated at Rome on 3 June, 1513, without imprint of printer, with notice of posting on the doors of St. Peter's, the Lateran, the Cancellaria, and in the Campo dei Fiori). There is of course a full account of the sixth session of the council in Hefe, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 396 ff.

<sup>54</sup> See Pastor, VII, 215, with note, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 147-148, with note, for the letter of Baldassare da Pescia to Lorenzo de' Medici, dated 16 August, 1514.

The Sultan Selim's declaration of peace and friendship with the Venetians may be found in the Archivio di Stato di Venezia, Documenti turchi, Busta 1, document dated at Adrianople on 17 October, 1513 [17 Sha'bat 919]. It is addressed to the Doge Leonardo Loredan. The agreement was negotiated by the Venetian ambassador Antonio Giustinian. The Venetians' safety was assured in Istanbul, Pera, Caffa, Trebizond, and elsewhere in the Ottoman dominions. The Porte recognized Venetian suzerainty over all the ports and lands the Republic then possessed as well as over those she might conquer from other Christian states. The duchy of Naxos and its dependencies were included in the truce, and neither Venetians nor Turks were to inflict loss or

in any event it is clear that the Venetians did not intend to go with him.

Venice had long had trouble at home as well as abroad. Although the proud banner of the winged lion flew from forts as well as galleys in Greek territories, Venetian commerce was beginning to fail. Undoubtedly the new Portuguese

injury upon the other. If the Turkish fleet should undertake an expedition against any area not under Venetian control, the Republic was to observe a strict neutrality without making any effort to render aid to the people being attacked or impeding the Ottoman fleet in any way. Both powers were to try to suppress piracy.

If either a Venetian or Turkish merchant, doing business in the territory of one of the high contracting parties, should fraudulently try to escape debt by fleeing into the jurisdiction of the other, steps were to be taken to satisfy the injured creditor. A Venetian bailie might reside in Istanbul for three-year periods. Slaves escaping from Venice into Turkey were to be redeemed for 1,000 aspers if they had become Moslems. Those who remained Christian were to be returned to their Venetian owners. Venice would observe the same provisions with respect to Turkish slaves. Merchants and others suffering shipwreck were to enjoy the full protection of their goods and property. The naval officers of both powers were to refrain from all acts of hostility, the one against the other, or suffer appropriate penalties for their violation of the terms of the present agreement. The Venetian bailie in Istanbul might adjudicate disputes and cases arising among Venetians, and the latter were not to be molested or charged either at Lepanto or in the Morea for the debts of their fellow citizens.

Venetians who did not establish some sort of residence in Turkish territory were not to pay the non-Moslem tribute or *khordā*. Testimony of Christians against the Christian subjects of the sultan were to be valid in court. The bailie could take charge of the goods left by Venetians who died in Turkey. Moslem merchants were not to be molested in Venetian territory when they paid the required duties on their wares. Likewise no Turkish subject was to harass Venetians or others engaged in trade while they sailed on the Adriatic from Corfu to Venice. Venice would continue to pay the annual tribute of 500 ducats for Zante, and the Sultan Selim swore to observe the articles of the present pact. The document has a *tergo* the following note in a contemporary hand: "U Capitula pacis Sultani Selimi inite per virum nobilem Antonium Justinianum doctorem, or[ator]em venetum, 1513 cum inclusa traductione sub hoc signo U," but the extant and apparently contemporary translation does not bear this sign, and is misdated 17 August. On 3 December, 1513, the Venetian government wrote both the sultan and the bailie in Istanbul of its full acceptance of the terms of the peace (*ibid.*, Sen. Secreta, Reg. 46, fol. 28r): "... se l'armada de la Excellentia vostra andrà in alcun loco che non appartenga a la Signoria nostra, che nui ne la nostra armata non darà alcun impedimento a quella de vostra illustrissima Signoria ne darà favor a quel loco dove andrà l'armata sua." In other words, if the Turks attacked Sicily or southern Italy, the Venetian fleet would not interfere.

and Spanish trade routes around South Africa and to the New World tended to depress Venetian commerce, but years ago Lamansky noted the close connection between the decline of the Venetian merchant marine and the extortions of the customs officials. In the courts justice was slow, and advocates, syndics, and other magistrates were conniving. Without accepting the full severity of Lamansky's strictures, one may acknowledge that the checks and balances of Venetian government tended to weaken executive power; the police were inadequately organized; incarceration was a common punishment, and the prisons in a deplorable state; and life and property were doubtless less secure than one has sometimes assumed.<sup>55</sup> In Leo X's time Venice was in no condition to embark on a crusade.

Leo was quite aware of the Venetians' reluctance to embroil themselves with the Turks, and on 5 July, 1515, he wrote the Doge Leonardo Loredan that, while he realized the Serenissima's treaties (*foedera*) with the Turks made it impossible for the doge to take overt action against them, still it was incumbent upon him as pope to check their ceaseless incursions. Leo had ordered the construction of some galleys at Ancona for service against the Turks, and he now wanted the doge to supply cannon and other armaments for them. He said that he was sending a member of his household, a Venetian, to explain his intentions further, "and I have also instructed him to run down at Venice certain Greek books of which I have need, and if you will oblige him in this, I shall be most grateful."<sup>56</sup> Since Leo had small hope of getting the cannon, we can only hope that he got the books.

The Venetians still had, of course, a large stake in the Levant. If there was really going to be a crusade, they could not afford to participate in a failure. Their policy was cautious and consistent. Thus on 6 November, 1517, the Council of Ten instructed the Venetian ambassador in

<sup>55</sup> Vladimir Lamansky, *Secrets d'état de Venise*, S. Petersbourg, 1884, pp. 671 ff., especially the quotations from documents in the notes. In the discussion of his texts Lamansky usually tends to be anti-Venetian, but as a general corrective to his large awareness of Venetian shortcomings, cf. James C. Davis, *The Decline of the Venetian Nobility as a Ruling Class*, Baltimore, 1962 (Johns Hopkins University Studies in Historical and Political Science, ser. LXXX, no. 2).

<sup>56</sup> *Leonis X. regesta*, II, no. 16,292, p. 132, and Bembo, *Epp.*, X, 45, in *Opere*, IV, 87.

Rome not to attend the conferences which Leo X was then organizing "in materia dil Turcho," but merely to affirm that Venice had always fought for Christendom against the Turks, and would not be lacking when the European princes were ready to embark on a crusade with deeds and not mere words.<sup>57</sup> It was not an unreasonable position.

We have already noted the papal encyclical of 3 September, 1513, announcing the lordly Cardinal Thomas Bakócz's dispatch to Hungary to launch a crusade against the Turks. From the time of his arrival in Buda, however, he found nothing but trouble. The military propensities of the Hungarians, rich and poor alike, turned from crusade to civil war as the peasants rose up against the feudality.<sup>58</sup> A report reaching Marino Sanudo in July, 1514, was to the effect that Bakócz had succeeded in recruiting an army of 40,000 "per far la cruciata e andar contra Turchi," but his unruly crusaders soon began ravaging the countryside. They killed a bishop and collected a good deal of booty, whereupon there were gatherings of the Hungarian barons, who took the field "contra questi di la cruciata, ch'è populazo."<sup>59</sup>

<sup>57</sup> Sanudo, *Diarii*, XXV, 71. A Turkish ambassador, Ali Bey, had just arrived in Venice, as observed elsewhere in this study (cf. Arch. di Stato di Venezia, Sen. Secreta, Reg. 47, fols. 86-87).

<sup>58</sup> Sanudo, *Diarii*, XVIII, 174, 190, 201, 240, 340, 349; A. Desjardins and G. Canestrini, *Négociations diplomatiques de la France avec la Toscane*, II (Paris, 1861), 648, 669.

The Turk was always a major problem for the Hungarians (cf. Sanudo, *Diarii*, XVI, 21, 57, 260, 261-262, 312, 326-327, 354-355, 375, 415, 436, 441, 447, 587, 588, 657-658, 673). On Saturday, 4 June, 1513, "in congregation il Papa [Leone X] dete la cruciata al regno di Hongaria contra turcas" (*ibid.*, XVI, 356).

<sup>59</sup> Sanudo, *Diarii*, XVIII, 350. A report from Buda, dated 11 August, 1514, shows that the uprising of peasant "crusaders" had created social and economic chaos in Hungary (*ibid.*, XIX, 13-17, and cf. cols. 99-103). The "crusaders" were suppressed in less than a year (*ibid.*, XX, 57). Cf. Vladimir Lamansky, *Secrets d'état de Venise*, S. Petersburg, 1884, pp. 430-433; Pastor, VII, 214-215, and *Gesch. d. Pápste*, IV-1 (repr. 1956), 147; Biblioteca del Museo Correr, Venice, MS. Cicogna 2848, fol. 120<sup>v</sup>, from the diary of Marcantonio Michiel. This was of course the revolt of the "Kuruczok" (i.e. *Cruciati*, crusaders) led by George (György) Dozsa, whom Bakócz had employed to recruit a peasant army, of which he soon lost control. Dozsa then went along with the desire of the rank and file in his forces to strike at the Magyar feudality and high clergy. When finally defeated, Dozsa was tortured to death.

It is not clear that Leo X understood the full gravity of the situation in Hungary, for he wrote Ladislás II on 21 September, 1514, that Bakócz had informed him that thousands of Hungarian warriors could march against the Turks if only the funds could be found to support them. Leo promised Ladislás a contribution of 50,000 ducats toward a properly organized army that would actually take the field against the Turks (*si iustum exercitum conficere atque in Turcas impetum facere statueris*).<sup>60</sup> But Hungarian warriors were already finding abundant employment in their own country, where the crusade had taken the form of a social revolution of the peasants against the cruel exploitation of their landlords. It lasted almost a year, and from this "crusade" obviously the Turks suffered no harm.

To the Hungarians, Turkish attacks had come to seem as inevitable as the social chaos under which they had been living since the death of the great Matthias Corvinus a quarter of a century before. Fortunately for them the Sultan Selim was constantly engaged in campaigns against the Persians and Mamluks, but along the Hungarian borders the need for defense was unrelenting, and in this connection Pietro Bembo addressed an interesting letter in the pope's name to the incompetent Ladislás (on 30 March, 1515). Leo X had just taken steps, he wrote, to send supplies to certain towns exposed to Turkish attack on the eastern front. Wheat and barley were being sent, various pieces of ordnance (*tormenta etiam varii generis aliquot*), "and 1,000 pounds of powder prepared for firing cannon, 10,000 pounds of sulphur, and 5,000 pounds of saltpeter," from which more powder could be made when it was needed. The pope was also providing 2,000 ducats, which money and supplies were to be used according to the wishes of Peter Berisló, the ban (*praefectus*) of Croatia and bishop of Veszprim. Leo had been informed that the threatened towns required refortification, and he was sending 20,000 ducats which must be used largely for rebuilding walls and clearing moats.<sup>61</sup>

<sup>60</sup> *Leonis X. regesta*, I, no. 11,826, p. 730, and Bembo, *Epp.*, X, 3, in *Opere*, IV, 76; Raynaldus, *Ann. eccl.*, ad ann. 1514, no. 51, vol. XXXI (1877), 72-73. This letter is alluded to, but misdated 27 September, in Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 503.

<sup>61</sup> *Leonis X. regesta*, II, no. 14,790, p. 60; Bembo, *Epp.*, X, 23, in *Opere*, IV, 82, and cf. *Epp.*, X, 24-25, pp. 82-83.

The Hungarian towns were certainly in a desperate plight; they required everything; and the Magyar nobility would contribute nothing. The peasant uprising of 1514 had prepared the way for a full-scale Turkish invasion, which in time was sure to come. If the pope's assistance was woefully inadequate, it was at least something, and if there were too many politicians in the Curia Romana, their deficiencies were as nothing compared with those of the corrupt and grasping nobles at the royal court in Buda.

Ladislás II, king of Hungary and Bohemia, died on 13 March, 1516, leaving his ten-year-old son Louis to occupy his shaky thrones. The ruling clique at the court of Buda had Louis declared of age to rule in order to escape interference from his exalted guardians, the Emperor Maximilian and King Sigismund of Poland. By his last will and testament Ladislás had committed his son to the care of the Cardinal Bakócz, who ruled Hungary for the next five years (until his death in 1521). Conditions in the kingdom could hardly have been worse, and Pope Leo X sent his relative Roberto Latino Orsini, archbishop of Reggio in Calabria, a papal referendary and domestic prelate, on a mission to Hungary and Poland. Orsini went as a nuncio with the full powers of a *legatus de latere*. In the bull of appointment addressed to Orsini on 2 April, Leo lamented the great loss which Christendom had suffered in Ladislás' death, for according to the bull he had been "like an intrepid pugilist of Christ and a strong athlete against the monstrous madness of the Turks," and had achieved glorious triumphs of victory over their "continual attacks and horrible ferocity." (We may observe, parenthetically, that the eloquence of papal writers was seldom employed so badly as in extolling the virtues of this feeble champion of the faith.) Leo had a particular love and consideration, he said, for the Hungarian kingdom, which stood as Europe's bulwark (*antemurale*) against the Turks. But discord and dissension seemed likely to follow Ladislás' death, to the terrible detriment of the Christian cause, and Leo expressed his hope to Orsini that peace and quiet might be made to obtain in the kingdom so that an expedition could be organized against the Turks. Leo was sending Orsini to work with Bakócz to allay the hostilities of commoners and nobles, remove strife, and seek the ends of justice, so that with political

peace and social tranquillity in Hungarian Christian arms might be turned against the Turks.<sup>62</sup>

If the Doge Leonardo Loredan sent Leo X the Greek books he had requested in July, 1515, the recent march of events could have left him little time to study them. The death of Louis XII at Paris on the night of 31 December, 1514, had brought to the French throne Francis I, in whom a youthful love of adventure was combined with a desire for military glory. Diplomats of the anti-

<sup>62</sup> Pastor, VII, 216-217, and append., no. 12, pp. 454-456, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 148, and vol. IV-2, append., no. 17, pp. 684-686. Orsini was archbishop of Reggio from 1512 to 1520 (C. Eubel *et al.*, *Hierarchia catholica medii et recentioris aevi*, III [1923], 284). Cf. Bembo, *Epp.*, XII, 3-5, in *Opere*, IV, 101-102; ". . . quae municipia isto in regno [Hungariae] vicina oppositaque Turcis sunt atque in summa rerum omnium inopia versantur celerisque auxilii magnopere indigent, ea in re omnem meam curam adhibebo daboque operam ut eis omnibus in tempore succuratur. Itaque volo bono vos animo esse neque vereri quin a me omnia paterni in vos officia procuracionisque proficiantur . . ." (letter to Bakócz dated at Rome on 25 March, 1516).

On 11 April, Leo expressed his anxiety about conditions in Hungary, where the king was now a boy, to Sigismund of Poland (*ibid.*, XII, 7, pp. 102-103). Ladislás had committed the boy to the especial protection of the Holy See (Raynaldus, *Ann. eccl.*, ad ann. 1516, no. 61, vol. XXXI [1877], 131), and in May Leo addressed an urgent appeal to Sigismund to help the Hungarians against the Turkish peril, "in quo non solum Dalmatia et Croatia, sed totum etiam regnum Hungariae, . . . et demum tota Christianitas vertitur" (*ibid.*, nos. 69-71, pp. 133-134).

The Venetians were on excellent terms with the Turks, with whom they had the *bona pax et amicitia*, on which cf. the Doge Leonardo Loredan's letter to the sultan dated 1 September, 1515 (Sanudo, *Diarii*, XXI, 7). But the Hungarians were expecting a Turkish attack, for "il Turcho fa gran preparamenti per invader quel regno, unde mandano oratori al Papa, Franza e la Signoria nostra a exortar a la pace et darli aiuto contra Turchi . . ." according to a report of the Venetian ambassador in Buda dated 25-26 August, 1515 (*ibid.*, XXI, 53). Ladislás' death on 13 March, 1516, was known in Venice by 23-24 March (Sanudo, *Diarii*, XXII, 63, and cf. cols. 130 ff.). The report of Antonio Surian, Venetian ambassador to Hungary, was given to the Senate on 18 December, 1516, after his return from the political chaos of the threatened realm. It is summarized in Sanudo's *Diarii*, XXIII, 348-354. Hungary was by now well along the road that led to Mohács (cf. in general Wilhelm Fraknoi, *Ungarn vor der Schlacht bei Mohács (1524-1526)*, German trans. from Hungarian by J. H. Schwicker, Budapest, 1886), and was of course a source of constant concern and apprehension in the Curia Romana (Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6 [from the Archivum Consistoriale], fols. 142<sup>v</sup>, 226<sup>v</sup>).

French powers were as usual trying to forge the links of another league which should organize the resources of pope and emperor, king of Spain and duke of Milan, as well as of the Swiss and the Genoese to frustrate the French king's inevitable attempt to conquer the Milanese duchy.<sup>63</sup>

While offering the papal alliance to Francis I if the latter would give up the old Angevin claim to Naples, Leo X delayed publishing his adherence to the anti-French league. It was not merely that Leo practiced a diplomacy of duplicity, which he did. He was a cautious man who made a policy of postponement, and his natural indecision was usually prolonged by timidity.<sup>64</sup> Even as the French were moving toward Italy and he was making financial payments to the Swiss and Spanish troops, Leo was still prepared to reach an accord with Francis provided (1) Parma and Piacenza remained with the states of the Church, (2) Francis made a lasting peace with Ferdinand

the Catholic, because the interminable Franco-Spanish wars were impeding papal efforts to launch a crusade against the Turks (*la sancta impresa contro a li Infideli*), and (3) Francis ceded his claims (*ragioni*) to the kingdom of Naples either to his Holiness or to a third party acceptable both to the Curia Romana and the French court. The Holy See could not tolerate control by a single prince of states in both northern and southern Italy (*perchè la Chiesa non resti in mezzo d'un principe che sia signore del capo et de la coda d'Italia*).<sup>65</sup> But Francis saw no necessity of making peace on the pope's terms, and as the Swiss blocked the Alpine passes north of Susa, Francis entered Italy by the southern route through the difficult Col d'Argentière into the Stura valley.<sup>66</sup>

<sup>63</sup> In the spring of 1514 the Cardinal Matthias Lang, Maximilian's special envoy to Rome, had tried to arrange an alliance of Leo X, Maximilian, and Ferdinand the Catholic, "e a questa il Papa non à voluto concludere" (Sanudo, *Diarii*, XVIII, 210). The political machinations of the spring and early summer of 1514 may be followed in Cesare Guasti, ed., "I Manoscritti Torrigiani donati al R. Archivio Centrale di Stato di Firenze," *Archivio storico italiano*, 3rd ser., XIX (Florence, 1927), 55 ff.

This collection of documents, hereafter referred to as "Manoscritti Torrigiani," passed by inheritance into the family of the Marchesi Torrigiani in 1816, and were presented to the state archives in Florence fifty years later. The collection had belonged to the Del Nero family, which had acquired it by marriage (in 1629). Most of these documents had belonged to Leo X's secretary Pietro Ardinghelli (1470?-1526) and the latter's son Niccolò (1503-1547), who became a cardinal under Paul III (see Guasti, *op. cit.*, pp. 16-21). Leo X's gradual entry into the league against Francis I may be followed in the second instalment of Guasti's edition of these documents (*ibid.*, pp. 221 ff., and note Sanudo, XIX, 430).

<sup>64</sup> To his natural indecisiveness Leo X added an amiable but closed personality. The imperial ambassador Alberto Pio da Carpi observes in a letter of 16 August, 1513, "Vere non aequè mihi notus est animus omnibus in rebus Leonis uti Iulii fuerat, tum quia natura non ita apertus est, tum quia non adhuc tanta familiaritate coniunctus sum uti Iulio fueram" (MS. 414, Lea Library, Univ. of Penna.). In 1514 Leo X tried hard to deflect the Venetians from their natural inclination toward France, sending Pietro Bembo on a futile mission to the Signoria in December, on which see Vittorio Cian, "A proposito di un' ambascieria di M. Pietro Bembo," *Archivio Veneto*, new ser. XXX-2 (1885), 355-407, and *ibid.*, vol. XXXI-1 (1886), 71-128.

<sup>65</sup> "Manoscritti Torrigiani," in *Archivio storico italiano*, 3rd ser., XXVI (1877), 180, a letter of Giuliano de' Medici written in August, 1515, when it appeared that the duke of Savoy might attempt mediation between France and the Holy See (cf. Pastor, *Gesch. d. Päpste*, IV-1 [repr. 1936], 77). Francis I had renewed with the Venetians on 27 June, 1515, the alliance made in the treaty of Blois more than two years before (Sanudo, *Diarii*, XX, 436). Leo X subscribed to the terms of the anti-French league on 30 July (*ibid.*, XX, 449), and the Venetian ambassador wrote his government on 3 August that the pope "mandava danari publici a' sguizzari et a' spagnoli, et la Liga è conclusa con loro . . ." etc., an interesting and important dispatch (*ibid.*, XX, 470-471, which also shows that French preparations for the invasion of Italy had been completed). As always the diplomatic and other maneuvers may be followed in Sanudo, *Diarii*, XXI, 10, 11, 12 ff., 18 ff., 28 ff., 36-37, 39 ff., etc., etc., numerous, full, and sometimes excited reports. At the beginning of September, 1515, Leo told the Venetian ambassador that "il re de l'inglaterra è intrato in la nostra liga: si ha sottoscritto e romperà a Franza. . . E questo fero non obstante le nove avemo per via di Ragusi, di le preparation grande fa il Turcho e di armada e di zente contra l'Hongaria." (The pope had prepared anti-French briefs, which had not yet been sent.) The ambassador asked, "Pater Sancte, vol Vostra Santità, ch'è capo di la Christianità, essere causa di meter discordia tra Cristiani, che oblio suo è di unir la Christianità contra infideli?," to which the pope replied, "Il re di Franza ha voluto cussì?" (*ibid.*, XXI, 54-55). Leo made Wolsey a cardinal to secure Henry VIII's entry in the *nostra liga* (*ibid.*, XXI, 68, 74, 251, 263-264, and J. S. Brewer, ed., *Letters and Papers, Foreign and Domestic, of the Reign of Henry VIII*, II-1 [London, 1864, repr. 1965], nos. 91, 374, 780, 887, 910, 929, 960, and 1153).

<sup>66</sup> Sanudo, *Diarii*, XX, 527-528, 544, 551, 567; Guicciardini, *Storia d'Italia*, XII, 12, ed. Florence, Salani, 1963, III, 162-163, 164-167. On French preparations for the campaign that led to Francis I's victory at Marignano, as seen by the Florentine ambassador Francesco Pat-

The Swiss were taken by surprise. Disorganization, even dissension, soon entered their ranks. The Spanish viceroy, Ramón de Cardona, remained at Verona on the winding Adige; he lacked funds and was waiting for German reinforcements; he also feared attack by Venetian forces; and in any event it was clear that the French had little to fear from him. Papal troops under the pope's nephew Lorenzo de' Medici moved slowly; Lorenzo was not anxious to meet the French and was fearful for the security of Parma and Piacenza. The Cardinal Giulio de' Medici, legate of Bologna, was the young Lorenzo's adviser, but was constantly in need of advice himself. Giulio's timidity, however, did not prevent his disagreeing with his papal cousin, who decided to return Bologna to the Bentivogli in a belated effort to win their support. The pope's friend and former secretary Bernardo Dovizzi, now Cardinal of Bibbiena, was even ready to see Modena and Reggio restored to the duke of Ferrara.<sup>67</sup> Indeed, the celestial minds advising his Holiness were in a quandary, for as Bibbiena wrote the Cardinal Giulio on 18 August (1515) if the latter and the young Lorenzo should live a thousand years, they would not again be called upon to deal with matters of such importance.<sup>68</sup> It would seem that in those trying days neither Medici nor Bibbiena, cardinals both, gave thought to the words of the psalmist (90:4). "For a thousand years in thy sight are but as yesterday when it is past. . . ."

dolfini, see the documents collected by Desjardins and Canestrini, II, 681 ff. The French arranged for a courier to be captured by the Swiss, bearing a false message to the duke of Savoy that Francis "era resolutto passare per il passo di Susa," which the Swiss proceeded to hold with resolute futility (*ibid.*, II, 703). The progress of the French to the battle of Marignano may be followed in the entries in Sanudo's *Diarii* from the beginning of August on (vols. XX-XXI), and cf. Rodocanachi, *Le Pontificat de Léon X* (1931), pp. 75 ff.

<sup>67</sup> Cf. Guicciardini, XII, 13, ed. Florence, Salani, 1963, III, 168-170; Desjardins and Canestrini, II, 704-711, 718 ff. When Francis I tried to negotiate with the Swiss, they appeared to be "pieni di varietà e di confusione" (Guicciardini, XII, 14, *ed. cit.*, III, 170), but some of them did sign an agreement with him (on 8 September), which was immediately broken off by the arrival of new contingents of Swiss (*ibid.*, pp. 172-173). On Lorenzo de' Medici hovering at Parma and Piacenza, *cf.*, *ibid.*, XII, 14, pp. 173-174.

<sup>68</sup> Desjardins and Canestrini, II, 710-711. On Bibbiena, see in general G. L. Moncallo, *Il Cardinale Bernardo Dovizzi da Bibbiena, umanista e diplomatico (1470-1520)*, Florence, 1953.

The Swiss cardinal, Matthias Schiner, lost neither his courage nor his animus against the French, but on 30 August the Cardinal Giulio wrote Lorenzo that, if Schiner insisted upon the light cavalry being sent to his aid, they should go; however, it would not do for them to carry the papal banners.<sup>69</sup> But on the afternoon of 13 September (1515), with the fiery encouragement of the indefatigable Schiner, the Swiss launched an attack upon the French camp near Marignano (now Melegnano). A two-day battle ensued, and while the outcome was still doubtful, Bartolommeo d'Alviano, commander of the Venetian troops, arrived to turn the eddying tide into a French victory. Francis I would very shortly become the duke of Milan. It had been a fierce encounter. Francis' commander Gian Giacomo Trivulzio described it as a battle not of men, but of giants, and said that the previous eighteen battles in which he had taken part were, in comparison with Marignano, merely "child's play" (*bataglie fanciullesche*).<sup>70</sup>

<sup>69</sup> Desjardins and Canestrini, II, 730. Schiner was then at Piacenza. After the French victory at Marignano, when the pope was relying on Francis to lead the crusade, Schiner still remained the implacable enemy of the French ("Manoscritti Torrigiani," *Arch. stor. italiano*, XXI [1875], 216, doc. dated 4 February, 1518). For documents relating to Swiss participation in the events of August and September, 1515, cf. Albert Büchi, ed., *Korrespondenzen und Akten zur Geschichte des Kardinals Matthäus Schiner*, 2 vols., Basel, 1920-1925, I, 563 ff. Despite Leo X's many dangerous distractions at this time, his fear of a Turkish attack continued without abatement (J. S. Brewer, ed., *Letters and Papers . . . of Henry VIII*, II-1 [London, 1864, repr. 1963], no. 968, p. 259). Brewer's edition of the *Letters and Papers . . . of Henry VIII* contains many documents relating to the proposed crusade during the reign of Leo X, but since they supply information generally known from other sources, I do not often cite them (see Brewer's general index under "Turks," *ibid.*, II-2, p. 1765).

<sup>70</sup> Guicciardini, XII, 15, ed. Florence, Salani, 1963, III, 178-185, with Trivulzio's statement on p. 184; Martin du Bellay, *Mémoires*, bk. I, ed. M. Petitot, *Collection complète des mémoires relatifs à l'histoire de France*, XVII (Paris, 1821), 264-269; and cf. the reports in Sanudo, *Diarii*, XXI, 76-85, 89 ff., 100 ff. Reports of Marignano crowded almost all other news out of Sanudo's diaries. The battle had lasted twenty hours (*ibid.*, XXI, 80, 81, 82, 97, 101, 103, 105). Venetian jubilation is quite understandable (*ibid.*, XXI, 118 ff.). Francis I entered Milan on Thursday, 11 October, 1515 (*ibid.*, XXI, 233-234, 236 ff.). See also the *Journal d'un bourgeois de Paris sous le règne de François Premier (1515-1536)*, ed. Ludovic Lalanne, Paris, 1854, repr. New York and London, 1965, pp. 20-28 (Société de l'Histoire de France). In November, 1516, Andrea Tre-

Leo found the next month very worrisome as he and his advisers dealt with French proposals for peace and presented his own to Francis I, who insisted upon the papal surrender of Parma and Piacenza as dependencies of the Milanese duchy, but agreed to maintain the Medici in Florence.<sup>71</sup> Massimiliano Sforza now abandoned his long-disputed inheritance. Francis entered Milan on 11 October, and Francesco Pandolfini wrote Lorenzo de' Medici from Milan on the eighteenth that Francis was very happy about the accord which had been arranged between the pope and himself, "and he has no other desire than . . . to kiss the feet of his Holiness and in person to render him a son's obedience."<sup>72</sup> Francis also wanted the opportunity to talk directly with the pope, who agreed to travel northward rather than face the possibility of the king's coming like his predecessor Charles VIII to Rome, where members of the Curia long preserved unhappy memories of Alexander VI's problems (in January, 1495). There was reason to believe, however, that Francis did not wish to travel south of Bologna.<sup>73</sup> This suited the interests of the Medici,

visau, Venetian envoy to Milan, reported to the Senate that "Milan è gran terra, à gran popolazion, gran ricchezza, e gran povertà. . . Hanno Milanese in odio oltramontani et francesi et alemani, et amano molto la caxa Sforzesca e voriano uno duca di quella fameja . . ." making clear that Francis would have trouble in Milan (Sanudo, XXIII, 169), but in the meantime, as the Venetian Senate wrote Francis on 18 September (1516), there was tremendous rejoicing in the lagoons, ". . . el gaudio singular et la incredibil contentezza del animo nostro, intesa la faustissima nova de la celebre et gloriosa giornata, ne laqual quella [i.e. vostra Christianissima Maestà] ha conseguita tanto honorevelissima victoria et acquistata triumphante et gloriosa gloria," etc. (Arch. di Stato di Venezia, Sen. Secreta, Reg. 46, fols. 133<sup>r</sup> ff.).

<sup>71</sup> For details note Guicciardini, *Storia d'Italia*, XII, 16, ed. Florence, Salani, 1963, III, 187-189, and Sanudo, *Diarii*, XXI, 133, 146, 153-154.

<sup>72</sup> Desjardins and Canestrini, II, 740-741. On the treaty of Viterbo, signed in mid-October 1515, between the pope and the king of France, cf. Rodocanachi, *Le Pontificat de Léon X*, pp. 82-84. The preliminary French text of the treaty, dated 20 September, is given in G. A. Bergenroth, ed., *Calendar of . . . State Papers . . .*, Spain, II (London, 1866), no. 219, pp. 259-260.

<sup>73</sup> Desjardins and Canestrini, II, 744: ". . . ma l'opinione . . . è che il Re non voglia passare Bologna." Guicciardini says the same thing. On 29 October, 1515, the Venetian Council of Ten warned Francis I to take every precaution for the safety of his person, because Leo X and Bibbiena would stop at nothing to gain their ends! (Vladimir Lamansky, *Secrets d'état de Venise*, S. Petersburg, 1884, pp. 45-46).

and in a secret consistory held at Viterbo on Monday, 5 November, fourteen cardinals agreed to what Paride Grassi calls the "transmigration" of the pope and the Curia Romana to Florence and thence to Bologna, where Leo would celebrate Christmas and meet with the king.<sup>74</sup>

Pope Leo X entered Florence on 30 November to an extraordinary welcome by his fellow citizens. Painters, sculptors, architects, and more lowly artisans employed all the artistic talent of their city on triumphal arches, great statues, and painted scenery. Jacopo Sansovino and Andrea del Sarto built a wooden façade to enhance the beauty of S. Maria del Fiore, where the Cardinal Giulio said mass. Leo left Florence on Monday, 3 December, and on the following Saturday, the eighth, he entered Bologna, where adherents of the Bentivogli and even the other citizens gave him a cool welcome. King Francis made his appearance on 11 December, and was received by the pope in public consistory in the great hall on the second floor of the Palazzo Pubblico (the so-called Palazzo d'Accursio), where so large a crowd had assembled that there was some fear the floor might collapse. During the three or four days that followed, Leo and Francis alternated solemn ceremonies with private discussions. No secretaries were present, no documents issued, but some notes were taken. Francis left Bologna on 15 December, and was back in France a few weeks later. Leo departed on the eighteenth and after a sojourn in Florence, where his brother

<sup>74</sup> Paride Grassi, in Pastor, VII, append., no. 10, p. 452, and *Gesch. d. Päpste*, IV-2 (repr. 1956), append., no. 15, p. 683; Raynaldus, *Ann. eccl.*, ad ann. 1515, nos. 24 ff., vol. XXXI (1877), 98 ff.; Sanudo, *Diarii*, XXI, 231, 256, 271, 273, 313, 324, 328-329, 344, 366, 371-381, 383-384. We may note here as well as elsewhere that the Curia Romana is far from an abstract institution during the early years of Leo X's reign, considering our knowledge of hundreds of members of its personnel (from the Cod. Vaticanus Latinus 8598), on which see the remarkably detailed study of the Marchese Alessandro Ferrajoli, "Il Ruolo della Corte di Leone X (1514-1516)," *Archivio della R. Società Romana di Storia Patria*, XXXIV (Rome, 1911), 363-391; vol. XXXV (1912), 219-271, and *ibid.*, pp. 483-539; vol. XXXVI (1913), 191-223, and *ibid.*, pp. 519-584; vol. XXXVII (1914), 307-359, and *ibid.*, pp. 453-484, both parts entirely on Pietro Bembo, with numerous documents; vol. XXXVIII (1915), 215-281, and *ibid.*, pp. 425-452, both parts entirely on Jacopo Sadoleto, also with docs.; vol. XXXIX (1916), 53-77, and *ibid.*, pp. 537-576; vol. XL (1917), 247-277; vol. XLI (1918), 87-110.



Giuliano lay ill, the Curia returned to Rome at the end of February.<sup>75</sup>

So little is known of the extent of Leo's agreements and disagreements with Francis that it is hard to say how much of the history of the next few years was influenced by the discussions held at Bologna. Paolo Giovio, who was writing his history at the pope's request, apparently learned nothing of the secret exchanges between Leo and the king.<sup>76</sup> In any event it is quite clear that the accord to which Francesco Pandolfini alludes in his letter of 18 October to Lorenzo de' Medici (negotiated at Viterbo on 3 October) now received the personal confirmation of both king and pope, but the latter at least entertained grave mental reservations about what he was agreeing to as he treated the king with every courtesy and consideration.<sup>77</sup>

Where the facts were sparse, the rumors would abound. Thus one Cornelius de Fine, a contem-

porary Dutch observer, noted in his diary gossip to the effect that

the supreme pontiff had promised the king of France to advance his interests and if possible to elevate him to the imperial throne since the Emperor Maximilian was now an old man, and so that in the meantime [Francis I] might not lack an imperial title rumor had it that [Leo] had made him emperor of Constantinople with the agreement however that he should undertake to conquer this empire by his own valor and effort, and afterwards I saw in Rome in many places most convincing evidence of this since I observed on the fronts of certain houses belonging to obtuse Frenchmen the French king's escutcheon painted with the imperial crown and adorned with a diadem.<sup>78</sup>

Whether Leo really dangled the Byzantine crown before the young king would be hard to say, but he did hold out to him the prospect of receiving that of Naples when the aged Ferdinand the Catholic finally went to his reward,<sup>79</sup> and Francis presumably reminded the pope, as Charles VIII had pressed the point with Alexander VI, that Naples was an excellent point of departure for Istanbul.

The crusade was certainly discussed at Bologna, for on 14 December (1515), while Francis was still in the city, Leo wrote King Manuel of Portugal, who had received several grants of the *crusada* to assist his efforts against the Moslems in Africa, that *secretioribus . . . in sermonibus* he had explored Francis' intentions and had found them entirely directed toward the well being of the Christian commonwealth. Leo was now confident that the pious, just, and necessary war against the Turks would be pressed "not with

<sup>75</sup> Cf. in general Pastor, VII, 126-141, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 86-96; Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 478 ff.; Rodocanachi, *Le Pontificat de Léon X*, pp. 86 ff. The description by Silvestro de' Gigli, bishop of Worcester, of the meeting of pope and king at Bologna is particularly interesting (letter dated 14 December, 1515, in J. S. Brewer, ed., *Letters and Papers . . . of Henry VIII*, II-1 [London, 1864, repr. 1965], no. 1281, pp. 341-342). Except for the pope's granting the king the right of nomination to French benefices and receiving the promise of being paid the true value of French annates, which agreements were put in writing, Guicciardini, *Storia d'Italia*, XII, 18, ed. Florence, Salani, 1963, III, 199, says that Leo and Francis transacted their business expeditiously, *ma non per scrittura*. But other ecclesiastical decisions were put in writing besides those relating to benefices and annates, and the Pragmatic Sanction was to be abolished (for the so-called Concordat of Bologna, see Hefele, Hergenroether, and Leclercq, VIII-1, 480-500). Sanudo, *Diarii*, XXI, 396, notes that "tra il Papa e il Re, non è intervenuto scrittura alcuna." But cf. the unnoticed text in Arch. Segr. Vaticano, Miscell. Arm. VI, tom. 39, fol. 170r: "Capitula foederis inter Leonem papam X et Franciscum regem Christianissimum inita Bononiae, MDXXV, mense Decembris," a late copy with the note "extractum ab exemplo manu ipsius Leonis Decimi," which seems to show that Leo himself took notes at his private talks with the king.

<sup>76</sup> Cf. Giovio's letter dated at Bologna on 15 December, 1515, the day of Francis's departure from the city (Sanudo, *Diarii*, XXI, 391-393): "... Quanto a le cose di pace o guerra si habino tractato, publicamente non se sa, perchè è stato molto secreto colloquio . . ." (col. 393).

<sup>77</sup> On Leo X's opposition to French interests after the meeting at Bologna, see Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 501-502.

<sup>78</sup> Pastor, VII, 141-142, note, and *Gesch. d. Päpste*, IV-1, 97, note, provides the pertinent passage from a Latin MS. of Cornelius de Fine's diary in the Bibliothèque Nationale in Paris. Guicciardini, *Storia d'Italia*, XII, 18, ed. Florence, Salani, III, 196-199, summarizes the (assumed) negotiations at Bologna on the basis of later events, and is probably accurate on the whole. There is a MS. of Cornelius de Fine in the Bibl. Apost. Vaticana, Cod. Ottob. lat. 2137.

<sup>79</sup> Desjardins and Canestrini, II, 764, 765-766, letters of Francis I and Francesco Vettori to Lorenzo de' Medici, dated 4-5 February, 1516. Ferdinand died on 23 January, 1516. Cf. Pastor, VII, 142, 217, and *Gesch. d. Päpste*, IV-1, 99, 149; Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 479, who state inaccurately, "Quant à reconnaître les prétentions françaises sur le royaume de Naples, Léon X s'y refusa absolument" (although doubtless Leo had no intention of allowing French entry into Naples if he could prevent it).

words and letters, as often in the past, but in fact and deed," and of course he urged Manuel to assist in the undertaking.<sup>80</sup>

On the same day (14 December) Francis avowed his intention, in a letter to his royal cousin of Navarre, "sans fiction ne dissimulation" to employ his strength and youth to make war against the enemies of the Christian faith. The necessary prelude, of course, to any such commitment on Francis' part was "une bonne paix universelle," but he professed to be thinking of the recovery of the Holy Land as well as other territories which the Turks had occupied.<sup>81</sup>

There is little reason to believe that Francis was entirely insincere in his expressed ambition to become a crusader although in the months that followed he answered Leo's appeals for financial aid to Hungary with nothing more than courteous expressions of solicitude.<sup>82</sup> Although especially vulnerable during this period, as we have seen, Hungary was spared extreme Turkish depredation

as a result of the Sultan Selim's distraction with the Persians and Mamlûks, which made possible renewals of the Turco-Hungarian truce in 1513, 1516, 1517, and on 31 May, 1519.<sup>83</sup>

There were serious infractions of the peace all along the troubled frontiers, but no events serious enough to lead to a formal declaration of war. In any event Selim appeared to be fully occupied in the East, although it was always hard to be sure of his next move, and Leo X realized that here was the opportunity, now or never, to take offensive action against the Porte. Thus for example, on 27 January, 1516, he urged Ladislas II not to agree to the peace or truce which Selim had just requested,

for the sultan does not want peace with you for any honest reason, but only to lull you to sleep and keep you quiet while he defeats his other enemies, so that later on when he is free from these enemies who now threaten him, and has been made stronger [by success] he may attack you and overrun your kingdoms [of Hungary and Bohemia] at the first favorable opportunity.<sup>84</sup>

After the meeting with King Francis at Bologna, Leo X was encouraged to think of a major effort against the Turks, a general league, in which all the important Christian states might participate. But the king's failure to respond to two papal appeals for money to assist the Hungarians in their perpetual battle with the Turks was disheartening, and Leo wrote Francis on 15 May, 1516, urging him to send at least 15,000 ducats which the papacy would match and transmit to Hungary. Peter Beriszló, bishop of Veszprim, ban of Croatia, and acting regent of Hungary, had just written that he had slender hope of being able to resist the Turks any longer,

<sup>80</sup> Bembo, *Epp.*, XI, 17, in *Opere*, IV, 93-94. The letter, written by Bembo, is full of praise for Francis. Cf. Rawdon Brown, ed., *Calendar of State Papers . . . Venice*, II (London, 1867), nos. 665, 670, pp. 271, 274. Brown necessarily made extensive use of Sanudo's (then unpublished) *Diarii* in his summaries of state papers.

The original of Sanudo's *Diarii*, neatly written in his small hand, is in the Bibl. Nazionale Marciana, MSS. italiani, Cl. 7, nos. 228 ff. [coll. 9215 ff.]. Owing to the fine quality of the paper and the stout wooden covers (now rebound in leather), the costs of which moved the impoverished Sanudo to complaint, they are in an excellent state of preservation. Sanudo's house also still stands in the parish of S. Giacomo dell' Orto by the Ponte del Meglio, at no. 1757 Fondamenta del Meglio, with the following plaque on the front wall: "Marini Leonardi F. Sanuti viri patr. / rerum venet. ital. orbisque universi / fide solertia copia scriptoris / aetatis suae praestantissimi / domum qua vixit obituque pr. n. [pride nonas] Apr. MDXXXVI / contemplantur viator."

<sup>81</sup> Ernest Charrière, *Négociations de la France dans le Levant*, 4 vols., Paris, 1848-1850, repr. New York, 1965, I, pp. CXXIX-CXXXI (in the Collection of documents inédits sur l'histoire de France, hereafter cited as Charrière).

<sup>82</sup> Cf. Charrière, I, 4-9, 12. On 26 January, 1516, Francis wrote Leo of his full concurrence in papal plans for the crusade against the Turks and the subsidy necessary to support the undertaking ("Manoscritti Torrigiani," *Arch. stor. ital.*, XX [1874], 19-20). In April, 1516, Leo was alarmed by the appearance of twenty-seven Turkish ships, four galleys and twenty-three *juste*, off the coast of Civitavecchia (*ibid.*, pp. 47-48, 50), and on 14 May the papal envoy at the French court was informed that "le cose di Ungheria, per conto del Turco, sono non solo vicine, ma dentro al pericolo . . ." (*ibid.*, p. 48). Hungary was in desperate straits.

<sup>83</sup> Joseph von Hammer-Purgstall, *Hist. de l'empire ottoman*, trans. J. J. Hellert, IV (Paris, 1836), 157, 220, 345, 350-351. On the Turco-Hungarian peace of 1513, note the *Lettres du roy Louis XII*, IV (Brussels, 1712), 109, and Sanudo, *Diarii*, XVI, 475-476, and cf. vol. XVII, 37-38, 398, 471.

<sup>84</sup> Bembo, *Epp.*, XI, 25, in *Opere*, IV, 95-96, and Raynaldus, *Ann. eccl.*, ad ann. 1516, nos. 58-59, vol. XXXI (1877), 130. Leo wrote in similar terms to Peter Beriszló, bishop of Veszprim (*ibid.*, no. 60, pp. 130-131). The Venetian bailie to the Porte, Niccolò Giustinian, wrote from Adrianople on 30 January, 1516, that Ladislas was not anxious to accept the sultan's offer of a three years' truce (Sanudo, *Diarii*, XXII, 9). See Ladislas' letter to the Cardinal Thomas Bakócz, dated at Buda on 24 November, 1515, in J. S. Brewer, ed., *Letters and Papers . . . of Henry VIII*, II-1 (London, 1804, repr. 1965), no. 1194, p. 313.

and Beriszo's vicar had thrown himself in tears at the pope's feet in the presence of the cardinals and implored the Curia Romana and all the kings in Christendom not to let the faltering kingdom pass under the Turkish yoke. The vicar reminded his Holiness and the Sacred College that Turkish fleets were now but a single night's sail away from the Adriatic coast of Italy.<sup>85</sup>

But even if Francis did not reply to the distant needs of Hungary with alacrity, he was the chief hope of the crusade, and on 17 May, 1516, Leo authorized the long bull *Salvator noster*, addressed especially to the French. In this bull he outlined the responsibility of the papacy amid the perils under which the Christian world was laboring; announced Francis' decision personally to go "to Constantinople and the other provinces overseas held by the infidels"; granted indulgences to those who would take part in the projected expedition; directed the clergy to preach the crusade in their churches; and imposed a tithe upon ecclesiastical properties to help defray the large expense which could be anticipated.<sup>86</sup> Although Leo X believed

that Europe should use its respite from Turkish attacks to prepare a great offensive, the news which came from the East was not encouraging.

In the late summer of 1514 the Sultan Selim had defeated the Persians near their capital, Tabriz, and had added the important provinces of Diarbekir and Khurdistan to the Ottoman empire.<sup>87</sup> Leo X received the news at Rome on 30 October. It came in letters from Ragusa, together with Selim's own dispatch to Istanbul announcing "la victoria autem contra il Sophi." Next day Leo summoned all the ambassadors accredited to the Holy See and had the dispatch read to them. Leo said that he had not slept all night "per esser mala nuova per la Christianità," and that it was necessary to give thought to defending the faith. There was no time to wait, no time to waste. He wanted to unite the Christian princes, and he asked all the ambassadors to write to their principals, and send them copies of the letters from Ragusa and the sultan's dispatch. For his part, Leo said that he would exert his every effort to defend the Church.<sup>88</sup>

<sup>85</sup> Bembo, *Epp.*, XII, 24, in *Opere*, IV, 106-107, and Raynaldus, *Ann. eccl.*, ad ann. 1516, nos. 67-68, vol. XXXI (1877), 133. In mid-February, however, when Leo wrote Beriszo, warning him against the Hungarian acceptance of the Turkish offer of a peace or a three-years' truce, he seemed confident of a French subsidy for the hard-pressed Hungarians (*ibid.*, no. 60, p. 130): "... Franciscus Gallorum rex nobis amantissime rescripsit omnia quae vellemus libentissime se facturum." But when on 2 May, 1516, the Venetian Senate issued Leonardo Bembo his commission as *designato baylo nostro* to Istanbul, he was to assure the Sultan Selim of the Republic's continuing joy in his good health, prosperity, fortunate successes, and victories: "Non contenti nui de questo, ne è parso convenir al grande amor portamo ala Excellentia sua et ala bona et sincera pace habiamo cum quella, far reiterar per tuo mezo la leticia che sempre riceve el cor nostro de ogni prospera fortuna sua, la gloria de laqual tanto desideramo quanto del proprio stato nostro . . ." etc. (*Arch. di Stato di Venezia*, Sen. Secreta, Reg. 47, fol. 11'). Bound by an agreement to Hungary, on 20 August, 1517, the Venetian Senate agreed to send Peter Beriszo (*reverendo D. Petro Berisio, episcopo Vespriemensi, bano Croacie*) the sum of 2,000 ducats whereas he had been hoping for 10,000 (*ibid.*, fols. 73-74, a decision related to a large financial involvement of Venice with the unfortunate affairs of Hungary, *ibid.*, fols. 94-96, which need not detain us here). Owing to the exigencies of their position in the Levant, Dalmatia, Istria, and Italy, the Venetians are frequently to be found running with the hare and hunting with the hounds.

<sup>86</sup> *Arch. Segr. Vaticano*, Reg. Vat. 1197, fols. 110r-119v, by mod. stamped enumeration, "datum Rome apud Sanctum Petrum, anno etc. 1516, sexto decimo Kal.

Iulii, anno quarto." Cf. Charrière, I, 10, note, and "Manoscritti Torrigiani," *Arch. stor. ital.*, XX (1874), 228. Also note the bull *Etri dispensatione superna*, of the same date, in Reg. Vat. 1193, fols. 127r-129r, by stamped enumeration, which more briefly goes over much the same ground. These bulls were apparently not promulgated until August, 1516 (*cf. Pastor*, VII, 162, and *Gesch. d. Päpste*, IV-1 [repr. 1956], 111).

Leo X was himself under constant pressure to proceed against the Turks (*cf.* the oration addressed to him by Cristoforo Marcello, archbishop elect of Corfu [*Corciren.*], *De sumenda in Turcas provincia*, printed without indication of place or press in 1516). On 25 June, 1516, the city of Genoa was granted crusading privileges to assist in the preparation of a fleet; the bull is preserved in a miserable copy in Reg. Vat. 1196, fols. 33r-41v, "datum Rome anno incarnationis dominice millesimo quingentesimo sexto decimo, septimo Kal. Iulii, pont. nostri anno quarto."

<sup>87</sup> Cf. Sanudo, *Diarii*, XVIII, 203, 210, 328, 346, 394-395, 421, 426, 445, and vol. XIX, 24, 56-61, 68, 85-88, 118-119, 129-130, 160, 175-176, 210, 216-217, 221 ff., 231-232, 233, etc., 317-318, etc.; *Leonis X. regesta*, I, no. 12,680, p. 772; Bembo, *Epp.*, X, 7, in *Opere*, IV, 78; Raynaldus, *Ann. eccl.*, ad ann. 1514, no. 47, vol. XXXI (1877), 71, letter of 12 November, to Fabrizio del Carretto, grand master of Rhodes, and see *ibid.*, nos. 37 ff., pp. 67 ff., Biblioteca del Museo Correr, Venice, MS. Cicogna 2848, fols. 113<sup>r</sup>, 116<sup>r</sup>, 120<sup>r</sup>, 126<sup>r</sup>, 129<sup>r</sup>-130<sup>r</sup>, 135<sup>r</sup>, from the diary of Marcantonio Michiel.

<sup>88</sup> Sanudo, *Diarii*, XIX, 210, 249-252. Tidings from the East made some impression on monarchs in the West. Francis I informed Henry VIII of his desire to see a union of the Christian princes in an expedition against the Turks (*cf.* the dispatches of Sebastian Giustinian,

That Leo X should immediately inform the ambassadors of the Christian states concerning the Turkish victory over the Persians was to be expected. The pope naturally relied upon the diplomatic corps as his chief link with the various states of Europe. Rome was a clearing house of international news and the major center for the dissemination of views touching the affairs of Christendom. In many subtle ways the papacy exerted its influence upon Europe by the impression it made upon the ambassadors, and this may be an appropriate place to consider the nature of this influence.

The diplomatic corps was given an important part in almost all ceremonies in Rome. The Roman people were merely spectators, playing no larger part in events than the numerous pilgrims and visitors always to be found in the city. As the center of Christendom, Rome was also the chief school of diplomacy in Europe, where court etiquette was brought to its ultimate refinement, and where ambassadors of the great powers actually learned significant details of ceremonial for the first time. Precedence at functions was a matter of great moment, and the ambassadors often quarreled with one another as to where they should stand or sit or march until the harassed master of ceremonies settled the dispute, which sometimes had to be referred to the pope himself. Actually this ceremonial was largely Byzantine in origin, and the influence of the imperial court at Constantinople upon the curial etiquette of Rome still survives into our own day.

Few kings were the intellectual equals of the popes, and few kings could dominate a reception by mere presence and sheer personality to the extent that Pius II or Sixtus IV, Alexander VI

or Julius II, or even Leo X, did as a daily routine of their exalted office. Although the papal masters of ceremonies, Johann Burchard and Paride Grassi, might complain of the pope's wilful disregard of this traditional practice or that, and something might go wrong here or there when a feast day was celebrated, a member of the pope's family was married, a cardinal was buried, or a prince was received at the Curia Romana, nevertheless papal ceremonies were staged with apparently unerring propriety, unflinching dignity, and with all seemly expedition. The ambassadors were always present. They might talk business in undertones, but they too were caught up in the spectacle and vastly impressed with the gala and brilliance of the Roman ceremonial, which seemed to flow from an inexhaustible treasury of social ingenuity, and took account of the minutest details of rank, office, and reputation.

At all the courts of Europe richness of dress was regarded as a courtesy to the chief of state and to the participants in diplomatic functions. Sanudo often describes the garb of ambassadors and other visiting dignitaries. When the meetings or ceremonies related to the crusade, the presence of the entire diplomatic corps was especially important, as on 31 October, 1514, when Leo summoned all the ambassadors to inform them of the Turkish victory over the Persians. The crusade could only be an international undertaking, and gatherings designed to promote it, required an international representation.<sup>89</sup>

Leo X had required no gift of clairvoyance to see what was coming, and his warning of the Turkish peril was fully justified. The young prince Suleiman wrote the government of Ragusa from Adrianople on 18 September, 1516, of his father's great victory over the Mamlûks (near Aleppo in late August): Selim had defeated the sultan of Egypt, captured and beheaded him, and overrun Syria. The Ragusei transmitted the message to the Curia Romana. A month later (on 17 October) Pietro Bembo wrote Francis I in the pope's name that, if the news was true, "it is high time for us to awaken from our slum-

Venetian ambassador in London, dated 6 December, 1515, and 21 January, 1516, trans. Rawdon Brown, *Four Years at the Court of Henry VIII*, 2 vols., London, 1854, I, 146, 165, and Henry VIII was said even to want to attempt the conquest of Jerusalem, which was thought possible with 25,000 men (Sanudo, *Diarii*, XVIII, 174). Despite occasional grandiose statements, however, Henry VIII took little account of Turkish affairs, according to Giustinian, and the English seemed to confine their foreign policy to anxiety about French and Italian affairs (*ibid.*, XXIII, 405). On Giustinian's appointment to the English mission in late December, 1514, *cf.*, *ibid.*, XIX, 338, 355. The Venetian government professed to believe that Henry VIII was most eager to see a union of the Christian powers against the Turks (Rawdon Brown, ed., *Calendar of State Papers . . . Venice*, II [London, 1867], no. 754, p. 313).

<sup>89</sup> *Cf.* Maulde-la-Clavière, *La Diplomatie au temps de Machiavel*, 3 vols., Paris, 1892-1893, II, 272-283 and ff. Obviously the diplomatic correspondence is a major source for all crusading plans proposed during this period.

ber, lest we be crushed asleep and just on the point of yawning!"<sup>90</sup>

At first doubt obtained whether this report of Turkish success in Syria (and even in Persia) was not a subterfuge to protect Selim from attack by the Christians while he was still fully engaged with the Mamlūks. On 4 January, 1517, however, Leo X wrote Francis that the Turkish victory had been confirmed from many sources. The pope had the gravest fears for Dalmatia and Hungary. The Mamlūk sultan, the "soldan" of Egypt, al-Ashraf Qānsūh al-Ghuri, had indeed been killed in a great battle north of Aleppo on 24 August (1516),<sup>91</sup> and the following October the viceroy Tīmān-Bey became the last of the Burji Mamlūks to rule in Cairo.<sup>92</sup> Leo X wrote

<sup>90</sup> Charrière, I, 12-15. In the conquest of Shiite Persia the Turks, who were Sunnis, achieved a religious as well as military and political victory. On Selim's successes, cf. Ludwig Forrer, ed. and trans., *Die osmanische Chronik des Rustem Pascha*, Zürich diss. Leipzig, 1923, pp. 45-54, and for events in the Islamic world leading up to the Ottoman conquest of Syria and for the conquest itself, see Herbert Jansky, "Die Eroberung Syriens durch Sultan Selim I.", in *Mitteilungen zur osmanischen Geschichte*, II (1923-1926), 173-241.

On the Ragusei's receipt and transmission of Suleiman's letter and other news concerning Selim's victories, see Gelcich and Thallóczy, *Diplomatarium Ragusanum*, Budapest, 1887, nos. 432-433, pp. 679-680, Ragusan letters to King Louis II of Hungary, dated 16 October and 13 November, 1516, and cf., *ibid.*, pp. 838, 840-841, and "ManoscrittiTorrighiani," *Arch. stor. ital.*, XX (1874), 239, 240, 250, 253-255, 367-368, 385, 400, 404-405, 408, on papal fears of the ultimate consequences of Selim's startling successes, news of which the Venetian Senate sent to the ambassador of the Republic in Rome on 18 and 25 October, 1516 (Arch. di Stato di Venezia, Sen. Secreta, Reg. 47, fol. 36, with similar letters to the Venetian ambassador in France, the colonial government in Corfu, the consul in Damascus, etc.).

<sup>91</sup> Cf. Sanudo, *Diarii*, XXIII, 248 ff., 262, 286, 325 ff., 384-385, 397-398, 420 ff., etc. In December, 1516, Francis I was offering, "unite le cose di christiani, andar in persona contra il Turco" (*ibid.*, XXIII, 268). The Turkish victory produced much disquietude in the Curia Romana (*ibid.*, cols. 395; 438; 442; 486-488, summarizing a four-hour sermon of Egidio Canisio against the Turks; 515). At this time Leo X was chiefly concerned with the expulsion of Francesco Maria della Rovere from Urbino.

<sup>92</sup> Sanudo, *Diarii*, XXIII, 453, and vol. XXIV, 15 ff., 135 ff., 154, 162 ff., 171, 203 ff., 221-222, 223-224, 254 ff., etc., 368-369, 387-388, etc., 604. On 18 June, 1517, Leonardo Bembo, Venetian bailie in Istanbul, wrote from Pera that "questo Signor turco è signor del mondo, però estote parati" (*ibid.*, XXIV, 506), but Leo X seemed to be the only sovereign in Europe trying to make preparations against the Turk.

Francis that, unless the latter now did his royal part, the shores of Italy and the littoral of other Christian countries would be ravaged, for Selim had a fleet of 200 galleys, well equipped and "designed for our destruction." Like a good shepherd, Leo would lay down his life for the flock, if necessary, and would make every effort to prevent the great slaughter, which he saw impending, from being visited upon the Christian commonwealth in his reign. The papal letter was written by Jacopo Sadoletto, and is marked by the classical fluency which characterized much of the Latin diplomatic correspondence of the age.<sup>93</sup> Even as Sadoletto was polishing and republishing his stately prose, Selim had already entered Egypt. He defeated the Mamlūks in the decisive battle of Reydāniya, and entered Cairo in late January.<sup>94</sup> The news of the Ottoman

<sup>93</sup> Charrière, I, 19-21, "datum Romae, apud Sanctum Petrum, sub annulo piscatoris, die quarta Januarii MDXVII, pontificatus nostri anno quarto." For the copy retained by the papal secretaries, see Arch. Segr. Vaticano, Arm. XLIV, tom. 5, fol. 129, and cf. fols. 124-126, letters to the Swiss and an unnamed bishop in France on the peril into which Selim's conquest of Egypt would bring Christendom, dated, respectively, 7 and 6 January, 1517. Showing little more than a casual interest in the crusade, Alberto Pio da Carpi wrote the Emperor Maximilian from Rome on 12 March, 1517, that the reduction of the Bohemians and Ruthenians to Catholic ecclesiastical unity and obedience, concord in Europe, peace in Italy, and the reform of the Church were all essential for the successful prosecution of war against the Turks (Lea MS. 414, Univ. of Penna.). Cardinal Schiner wrote Wolsey from Mechlin (Malines) on 4 February, 1517, that he saw no hope of peace in Italy, and the French and Venetians could best be described as Turks (A. Büchli, *Korrespondenzen . . . d. Kardinals Matth. Schiner*, II [1925], 177).

<sup>94</sup> Venetian dispatches place Selim's entry into Cairo as early as 21-22 January, 1517 (Sanudo *Diarii*, XXIV, 162, 165, 166 [where "13 de Zener" is clearly a mistake for 31 January], 167, 170-171, 172, and vol. XXV, 133, 651 ff. Cf. in general Stanley Lane-Poole, *History of Egypt in the Middle Ages*, 4 ed., London, 1925, pp. 352 ff., and Raynaldus, *Ann. eccl.*, ad ann. 1517, nos. 23 ff., vol. XXXI (1877), 156 ff.

A firm of 16 February, 1517, published by Bernhard Moritz in Arabic, shows that Selim promptly granted the Venetians a renewal of the trading privileges they had enjoyed in Egypt under the Mamlūks ("Ein Firman des Sultans Selim I für die Venezianer vom Jahre 1517," in *Festschrift Eduard Sachau*, Berlin, 1915, pp. 422-443, esp. pp. 427 ff.). This concession apparently received a final confirmation on 8 September as a result of a Venetian embassy to Cairo (W. Heyd, *Histoire du commerce du Levant au moyen-âge*, trans. Furcy Raynaud, II [repr. 1967], 545-546). The embassy was undertaken by Bartolommeo Contarini and Alvise Mo-

conquest of Egypt was received with gloom and foreboding at the Curia Romana.

In March, 1517, it was reported in Venice that the pope had appointed Janus Lascaris as his envoy to the new sultan of Egypt, Tūmān-Bey, who was said to have appealed to Rome for aid against Selīm.<sup>95</sup> The devastating completeness of the Mamlūk defeat, however, was beyond question and Tūmān-Bey was betrayed and hanged on 14 April, 1517, at the Zawila gate in Cairo.<sup>96</sup> On 16-17 April, Venetian letters from Rome stated that "Lascari non va più al Soldan."<sup>97</sup> which was just as well, for under the circumstances a papal embassy to Cairo would have been quite as futile as dangerous.

But there were renewed talks of a joint expedition of the chief western powers against the Turks. To a superficial observer the time might even have seemed propitious for such an undertaking.<sup>98</sup> It certainly seemed necessary when

cenigo, to whom on 26 May, 1517, the Doge Leonardo Loredan issued a detailed commission (Arch. di Stato di Venezia, Sen. Secreta, Reg. 47 fols. 59<sup>v</sup>-61<sup>r</sup>). Despite the Ottoman conquest, Syria and Egypt were to remain open to Venetian trade, and the Republic was clearly not going to lend its support to a crusade which would thus jeopardize its economic interests in the Levant. As long as the Venetians behaved, they could probably expect the forbearance of Selīm, who doubtless feared the ultimate economic consequences of the Portuguese circumnavigation of Africa, which had already made Lisbon a great center of the spice trade. Portuguese imports from India entirely escaped Ottoman impositions (cf. Rinaldo Fulin, ed., *Diarii e diaristi veneziani*, Venice, 1881, pp. 155-247, entries from the diaries of Girolamo Priuli, from August, 1499, to March, 1512, relating to Portuguese enterprise in India and the apprehension which it caused the Venetians, Egyptians, and the Turks, on which cf. W. E. D. Allen, *Problems of Turkish Power in the Sixteenth Century*, London, 1963, pp. 10-13, 46-48, with refs.).

<sup>95</sup> Sanudo, *Diarii*, XXIV, 106, 143. According to a dispatch, dated 23 March, 1517, of Marco Minio, the Venetian ambassador in Rome, the aid was requested for the protection of Rhodes (*ibid.*, col. 143), which Tūmān-Bey obviously did not want to fall into Turkish hands.

<sup>96</sup> On the death of Tūmān-Bey, see Sanudo, *Diarii*, XXV, 669.

<sup>97</sup> Sanudo, *Diarii*, XXIV, 182. Some confusion exists in the sources on the subject of this proposed embassy (B. Knös, *Janus Lascaris*, Uppsala, 1945, pp. 156-157), but Lascaris never departed for Egypt. In speaking of the humanist diplomat Lascaris, we may note quite incidentally the interesting entry in Sanudo, XIX, 425, concerning the death of the humanist printer Aldus Manutius in February, 1515.

<sup>98</sup> There was much popular interest in the crusade at this time although, as Guicciardini says, the princes con-

members of the Curia Romana learned in late April, 1516, that twenty-seven Turkish or Moorish *fuste* had been sighted off the coast some miles from Civitavecchia, and Leo X. who was hunting, fled from the area in great fear. The Venetian ambassador Marino Giorgi informed his government that rumor had it the pope had almost been captured, and there were those at Rome who wished in fact that the Moslems had got him.<sup>99</sup>

The month of May, 1516, marks the beginning of renewed estrangement between Leo X and Francis I. The pope had failed to help the French to the extent of his commitments at Bologna when the Emperor Maximilian, disgruntled by Francis' victory at Marignano, had tried to invade northern Italy in March.<sup>100</sup> In his turn Francis aroused the pope's suspicions by his apparent readiness to press his alleged rights to Naples and to aid Francesco Maria della Rovere, duke of Urbino and the nephew of Julius II. Not unjustly, Leo regarded Francesco Maria as a disloyal vassal, and had declared the forfeiture of his duchy. Papal and Florentine troops in fact overran the duchy in May, and Urbino as well as Pesaro and Sinigaglia quickly succumbed. Fran-

sulted among themselves "più presto con ragionamenti apparenti che con consigli sostanziali" (*Storia d'Italia*, XIII, 9, ed. Florence, Salani, 1963, III 274 ff.). Paride Grassi attests to Leo X's anxiety to see steps taken to organize a crusade (Pastor, VII, append., nos. 14-15, pp. 457-458, and *Gesch. d. Päpste*, IV-2 [repr. 1956], append., nos. 19, 20, pp. 687, 688), and even Henry VIII wrote Leo that he was ready "to go in person on the expedition against the Turk" (Sanudo, *Diarii*, XXIV, 167). The Hungarian Cardinal Bakócz said that Selīm's capture of Cairo was "bone nove per il Turco, e cativo per christiani e tutto il resto del mondo" (*ibid.*, XXIV, 290), and the Venetian ambassador wrote his government from Rome on 25 June, 1517 "... pur questa armata turchesca fa tremar tutta quella Corte [Romana]" (*ibid.*, XXIV, 420).

<sup>99</sup> Sanudo, *Diarii*, XXII, 183, from Giorgi's dispatches dated at Rome on 27-28 April, 1516; cf. "Manoscritti Torrigiani," *Archivio storico italiano*, XX (1874), 47-48, 50. An English dispatch of June, 1516, insists that Leo had a very narrow escape (J. S. Brewer, ed., *Letters and Papers . . . of Henry VIII*, II-1 [London, 1864, repr. 1965], no. 2017, p. 594).

<sup>100</sup> Guicciardini, *Storia d'Italia*, XII, 20, ed. Florence, Salani, 1963, III, 204-211; Heffele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 501-502. The Venetian ambassador wrote from Rome on 30 July, 1517, that "el Christianissimo re [Francis I] è mal satisfato di Papa, e il Papa di Soa Maestà" (Sanudo, *Diarii*, XXIV, 543, and cf. col. 571, and vol. XXV, 101).

cesco Maria fled to his Gonzaga relatives in Mantua, and on 18 August, 1516, the pope's nephew Lorenzo became duke of Urbino and lord of Pesaro in a formal ceremony of investiture in Rome.<sup>101</sup>

But Francesco Maria suddenly returned in January, 1517, in a bold, surprise attack, and reoccupied Urbino and the chief towns of the duchy, to Leo's astonishment and consternation. The war now lasted eight months, and Guicciardini says that it cost Leo 800,000 ducats.<sup>102</sup> The papal commanders were manifestly incompetent. Francis I finally sent as his ambassador to Rome Thomas de Foix, lord of Lescun, a brother of the Marshal Lautrec. Lescun requested the tithe and brought the pope a force of cavalry and some 3,000 infantry to help expel Francesco Maria. The French forces did very little, but Francesco Maria finally failed in his bid to recover the duchy of Urbino, owing to a complete lack of money and heavy artillery.<sup>103</sup>

<sup>101</sup> Guicciardini, XII, 18, 21, ed. Florence, Salani, 1963, III, 197, 212-216; Raynaldus, *Ann. eccl.*, ad ann. 1516, nos. 81-83, vol. XXXI (1877), 137-138, who gives the date of Lorenzo's investiture from the diary of Paride Grassi. Sanudo, *Diarii*, XXII, 456, also notes the investiture (and cf., *ibid.*, col. 474, and vol. XXIII, 12, 73). On Leo X's prolonged efforts to take Urbino away from Francesco Maria, cf. Rodocanachi, *Le Pontifical de Léon X*, pp. 99 ff. Sinigaglia is now called Senigallia.

<sup>102</sup> The sum is in fact about the amount which Leo X claimed to have spent (Sanudo, *Diarii*, XXIV, 669), and in general note Arch. Segr. Vaticano, *Acta Miscellanea*, Reg. 6, fols. 143<sup>r</sup>, 151, 163<sup>r</sup>, 190.

<sup>103</sup> Guicciardini, XIII, 1-6, 8, ed. Florence, Salani, 1963, III, 228-260, 266-274; Guasti, ed., "Manoscritti Torrigiani," *Arch. stor. ital.*, XX (1874), 367 ff.; cf. Predelli, *Regesti dei commemoriali*, VI, lib. XX, no. 66, pp. 144-145, doc. dated 17 September, 1517, and cf. no. 68; Charrière, I, 29-30, note 2; Raynaldus, *Ann. eccl.*, ad ann. 1517, nos. 81 ff., vol. XXXI (1877), 170 ff. Four years later, when the break had come between the pope and the king of France, the latter recalled his generosity to the Medici in a letter to the French ambassador in Rome, dated 19 June, 1521, in Charles Weiss, ed., *Papiers d'état du Cardinal de Granvelle*, I (Paris, 1841), 123 (Documents inédits sur l'histoire de France, no. 44).

The young Lorenzo de' Medici, duke of Urbino, was the grandson of il Magnifico and the son of Piero, who was expelled from Florence in early November, 1494, shortly before Charles VIII entered the city. The duke of Urbino died on 4 May, 1519; he was the father of Catherine de' Medici, queen of France and mother of three kings. Today Lorenzo is best known for his tomb, which Michelangelo made for the new sacrists of S. Lorenzo in Florence.

During the crowded years 1516-1517, while Leo X voiced constant apprehension concerning the Turks, he had cause to watch with equal anxiety the conferences which the representatives of the great powers held and the conventions to which they subscribed at Noyon, London, Brussels, and Cambrai. At Cambrai, for example, on 11 March, 1517, an alliance was negotiated whereby Maximilian, Francis I, and Charles [V] formed a league, the purpose of which was more fully defined in secret articles added to the treaty in May and July: northern and central Italy were to be organized into the two kingdoms of "Lombardy" and "Italy" and taken over by Francis I and the Hapsburgs, respectively.<sup>104</sup> Leo X had some reason to fear that the Medici might again lose their beloved city of Florence.

Maximilian had for some time been disenchanted with the vagaries of Leo's diplomatic policies. Thus when Marino Giorgi (Zorzi), the Venetian ambassador to the Holy See, returned home and delivered in the Senate the report of his mission (on 17 March, 1517), he told how Leo had sent Egidio da Viterbo, general of the Augustinians, with five of his black-clad friars to Maximilian in 1515 "under the guise of persuading the emperor to undertake an expedition against the infidels." Maximilian greeted Egidio with an outburst of temper: "Father, to what purpose have you come? You have done badly! I think you have come to attend my funeral. As for making war against the infidels, it is necessary first to reform the Church. After that we'll make the expedition!"<sup>105</sup> But Leo preferred the role of crusader to that of reformer.

<sup>104</sup> Jean Dumont, *Corps universel diplomatique*, IV-1 (Amsterdam, 1726), 256-257. This treaty also contained ostensible provision "pour résister aux Turcs et autres ennemis de la Sainte Foi Catholique" (*ibid.*, p. 256b). As frequently in this period, the important articles were secret. Cf. J. S. Brewer, ed., *Letters and Papers . . . of Henry VIII*, II-2 (London, 1864, repr. 1965), p. 1019, note; Francesco Nitti, *Leone X e la sua politica*, Florence, 1892, pp. 101-102; Ed. Fueter, *Storia del sistema degli stati europei dal 1492 al 1559*, trans. Biagio Marin, Florence, 1932, pp. 421-422; Pastor, *Gesch. d. Päpste*, IV-1 (repr. 1956), 110-111.

<sup>105</sup> Sanudo, *Diarii*, XXIV, 85. On Egidio, note A. Palmieri, "Giles de Viterbe," *Dictionn. de théologie catholique*, VI-2 (Paris, 1920), 1365-1371, with the older literature. Leo X made Egidio a cardinal in July, 1517; Egidio died in November, 1532. See especially John W. O'Malley, "Giles of Viterbo: A Reformer's Thought on Renaissance Rome," *Renaissance Quarterly*, XX (1967), 1-11, with refs., and the detailed study of

The pope's mind was distracted from the crusade by the affair of Urbino and the machinations of the great powers, and now events occurred, in April, 1517, which occupied his full attention, and concerning which the last word has certainly not yet been said. According to the usual account, which Pastor and the Marchese Ferrajoli believe, an extraordinary plot was discovered to poison the pope, a plot hatched in the Sacred College itself. The arch-conspirator was the irresponsible young Cardinal Alfonso Petrucci, but the harebrained scheme was soon shown to have involved the Cardinals Bandinello Sauli and Francesco Soderini as well as the illustrious Cardinal Raffaele Riario, *camerlengo* and dean of the Sacred College, and that well-known intriguer, the Cardinal Adriano Castellesi. Leo X had removed Borghese Petrucci, the Cardinal Alfonso's brother, from the *signoria* of Siena in March, 1516, as a step in the Medicean reduction of Tuscany. Borghese and Alfonso were sons of the "tyrant" Pandolfo Petrucci, and both are believed to have inherited a strain of madness from their mother.<sup>106</sup> But when one dealt with Leo X, it was well to have one's wits about him.

The Cardinal Alfonso found the prospect of revenge sweeter than the soft life he had been leading at the Curia Romana. Alfonso soon paid for his alleged designs upon the pope's life by the sacrifice of his own. He had certainly been

guilty of threats against Leo, as well as conspiratorial acts to repossess Siena by force, and under torture his *maestro di casa*, Marco Antonio Nini, and certain others affirmed Petrucci's guilt. But while torture opened a man's mouth, it did not always lead to the enunciation of truth. The surviving records contain many inconsistencies. Sauli and Soderini, Riario and Castellesi were ruined by the revelation of their alleged complicity in the plot. It was said that Riario had hoped to become pope. After exacting from him the enormous fine of 150,000 ducats as well as other concessions, Leo finally pardoned Riario,<sup>107</sup> who

<sup>106</sup> Guicciardini, XIII, 7, ed. Florence, Salani, 1963, III, 260-265; Roberto Palmarocchi, ed., *Carteggi di Francesco Guicciardini*, II (Bologna, 1939), nos. 136, 139, pp. 118, 122; Raynaldus, *Ann. eccl.*, ad ann. 1517, nos. 89-99 vol. XXXI (1877), 173-177; Guasti, "Manoscritti Torrigiani," *Archivio storico italiano*, 3rd ser., XXVI (1877), 404-405. Sanudo recorded with great interest what he could learn of the cardinals' conspiracy (*Diarii*, XXII, 51, and vol. XXIII, 583-584, referring to the loss of the signoria of Siena by the Cardinal Petrucci's brother; vol. XXIV, 106, 195, 196, 274, 288-289, 321, 323-324, 326, 353-354, 355, 374, 376, 401-403, 412-413, 418, 419 ff., 449, on Riario's fine, 477, 511; and vols. XXV, 66, 163, and XXVI, 358, 379, 406-407). On Leo X's reconciliation with Riario, see Paride Grassi, *Diarium*, ad ann. 1518-1519, ed. Chr. G. Hoffmann, *Nova scriptorum ac monumentorum . . . collectio*, Leipzig, 1731, pp. 421-423, and on Riario's death and burial (at first in S. Lorenzo in Damaso), *ibid.*, ad ann. 1521, pp. 464-466, 468, 479.

Besides Ferrajoli's unusual monograph *La Congiura dei cardinali contro Leone X*, see G. A. Cesareo, *Pasquino e pasquinate nella Roma di Leone X*, Rome, 1938, pp. 91-113 (in the Miscellanea della R. Deputazione Romana di Storia Patria); Pastor, *Hist. Popes*, VII, 170-196, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 116-134; and esp. G. B. Picotti, "La Congiura dei cardinali contro Leone X," *Rivista storica italiana*, new series, I (Rome, 1923), 249-267.

To the known sources concerning Riario, I can add the interesting letter of Jacopo de' Bannissi, a servant of Marguerite of Savoy and the imperial house (a number of his letters are published in the *Lettres du roy Louis XII*), to Alberto Pio da Carpi over the date 14 August, 1517. Bannissi attributes Riario's restoration to Carpi: "Qui hèn venuta la nova de la restitution et reintegracion in ogni cosa de Monsignore Reverendissimo Cardinale de San Zorzi de che ne ho singularissimo apiacere: no dubito che la opera de la Signoria vestra lo habi salvato . . ." (MS. 414, Lea Library, Univ. of Penna.). Alberto da Carpi also interceded with the pope on behalf of the Cardinal Adriano Castellesi (Sanudo, *Diarii*, XXV, 204). On Riario's restoration, note also Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fol. 74v, concerning the consistory of Friday, 24 July, 1517, and *ibid.*, fol. 93r, consistory of Monday, 10 January, 1519, and Acta Miscellanea, Reg.

Eugenio Massa, "Egidio da Viterbo e la metodologia del sapere nel Cinquecento," in *Pensée humaniste et tradition chrétienne aux XIV<sup>e</sup> et XV<sup>e</sup> siècles*, Paris, 1950, pp. 185-239 (published by the Centre National de la Recherche Scientifique).

<sup>106</sup> On the conspiracy of the cardinals, see the important work of Alessandro Ferrajoli, *La Congiura dei cardinali contro Leone X*, Rome, 1919-1920 (in the Miscellanea della R. Società Romana di Storia Patria [vol. VII]), 355 pp., with an appendix of documents and extensive citation of the sources: Guicciardini, *Storia d'Italia*, XII, 18, and XIII, 7, ed. Florence, Salani, 1963, III, 200, 260-261; Paride Grassi, *Diarium*, ad ann. 1518 [reflections on the death of Cardinal Sauli], ed. Chr. G. Hoffmann, *Nova scriptorum ac monumentorum . . . collectio*, Leipzig, 1731, pp. 405-406. The accusation that Cardinal Petrucci planned to poison the pope was first made on 27 or 28 April in the sixth interrogation of Marco Antonio Nini, Petrucci's steward (see Ferrajoli, *op. cit.*, pp. 23-24 ff., 41 ff., 61 ff., 245 ff.). Cf. in general Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fols. 69v, 70r ff., by modern stamped enumeration, and Acta Miscellanea, Reg. 6, fols. 153, 155 ff., 158r ff., 161r ff., 190. On Castellesi's flight from Rome, note, *ibid.*, fol. 164r, and cf. Bibl. Apost. Vaticana, Cod. Urbinas lat. 1641, fols. 403-404.



eventually retired to Naples where he died a broken man on 6 July, 1521.<sup>108</sup> One of the most famous and popular figures at the Curia Romana, Riario lies buried today in the south wall of the apse of the Church of the SS. Apostoli in Rome.

Except to recall to the informed reader the turbulent condition which existed in the Curia through the spring and summer of 1517, the conspiracy of the cardinals is no affair of ours in the present work. But G. B. Picotti has reviewed the known facts and documents with results quite different from those of Pastor and Ferrajoli, and believes that Leo X seized upon Petrucci's indiscretions and intrigues to create a "plot" against his own life as a means of destroying his opponents, extorting huge sums of money from them (especially from Riario), and preparing the way for the drastic enlargement of the

Sacred College by the appointment of neutral and pro-Medicean cardinals. Unfortunately for Leo's memory, little that we know of his character makes this grave accusation impossible or even unlikely.<sup>109</sup> Almost as remarkable in its way as the alleged conspiracy of five cardinals to kill the pope was the astonishing nomination of thirty-one cardinals in the great creation of 1 July, 1517,<sup>110</sup> after which Leo had a firm hold on the College and the Curia.

About a month before Leo had learned of the Cardinal Petrucci's designs upon his life, he presided over the twelfth and last session of the Fifth Lateran Council (on 16 March, 1517). There were eighteen cardinals present, three Latin patriarchs, some eighty archbishops and bishops, the usual curial officials, and the ambassadors resident in Rome. Cardinal Carvajal, who had opposed the council so bitterly under Julius II, now celebrated the opening mass, and Massimo Corvino, bishop of Isernia in southern Italy, preached a pompous sermon, after which a letter of the Emperor Maximilian was read (dated at Mechlin on 28 February, 1517). The emperor acknowledged receipt of a papal brief informing him of the Sultan Selim's victory over the Egyptian sultan in Syria and urging him to join the projected crusade against the Turks.<sup>111</sup>

6, fols. 173<sup>r</sup>-174<sup>r</sup>, 252. Bandinello Sauli was also recorded (*ibid.*, fol. 175<sup>r</sup>).

<sup>108</sup> Sanudo, *Diarii*, XXXI, 117. Ferrajoli, *La Congiura dei cardinali contro Leone X*, p. 106, believes that Riario died on 9 July. The conspiracy of the cardinals had been an almost incredible affair, *crimen laesae maiestatis et praeiudicium dignum* (Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6, fol. 162<sup>r</sup>). There is an account in Bibl. Apost. Vaticana, Cod. Urbinas lat. 1641, fols. 397<sup>r</sup>-419<sup>r</sup> (Delle giustizie fatte da PP. Leone Decimo nel discorso del suo ponteficato). The imprisonment of the cardinals who were implicated naturally made an immense stir in the Curia, as shown by Paride Grassi, *Diarium*, Cod. Vat. lat. 12,274, fols. 238<sup>r</sup>-239<sup>r</sup>, 241<sup>r</sup>-242<sup>r</sup>, 243<sup>r</sup>-244<sup>r</sup>, 245<sup>r</sup> ff., by mod. stamped enumeration.

In the A[rchivum] A[rcis], Arm. I-XVIII, 1443, fols. 158<sup>r</sup> ff., full data may be found concerning the fact "quod Dominus Raphael de Riario olim cardinalis Sancti Georgii in praesentiarum in carceribus in Castro Sancti Angeli in urbe detentus pro eius liberatione et relaxatione a dicto castro inter alia tenetur dare idoneas et sufficientes cautiones pro summa centum quinquaginta millium ducatorum auri de camera de non recedendo ab obedientia Sanctissimi Domini Nostri ullo umquam tempore et de non recedendo ex locis sibi assignandis per eundem Sanctissimum D. N. in dominio temporalis Sancte Romane Ecclesie absque eius licentia in scriptis obtinenda . . ." etc. There is no doubt that the fine was 150,000 ducats (*ibid.*, fols. 158<sup>r</sup>, 160<sup>r</sup>, 162<sup>r</sup>, 166<sup>r</sup>). The relevant documents are dated from 6 July to 15 September, 1517, and contain the names of the scores of sponsors (*fideiussores*) who stood bail for Riario. The number of such sponsors from the Curia Romana is astonishing, and must have given Leo X some uneasiness. The imperial ambassador, Alberto Pio da Carpi, as observed in the preceding note, did indeed render Riario such service as he could (*ibid.*, fol. 164<sup>r</sup>), as apparently did Leo X's friend, the famous banker Agostino Chigi, who made 50,000 ducats available for Riario's release (fols. 166<sup>r</sup>, 168<sup>r</sup>), and Riario seems to have had the support of all the European princes (fols. 170-171).

<sup>109</sup> G. B. Picotti, "La Congiura dei cardinali," *Rivista storica italiana*, I (1923), 249-267, from whose pages Leo X and his cousin, the Cardinal Giulio de' Medici, emerge as criminals, but the stakes were high, and the threats to Medicean security were serious. Ferrajoli, *op. cit.*, pp. 140-149, believes that there was in fact a real conspiracy to poison Leo, as stated in the confession extorted from Nini under torture. Rodocanachi, *Le Pontificat de Léon X*, pp. 113 ff., gives a general account of the conspiracy.

<sup>110</sup> Eubel et al., *Hierarchia catholica*, III (1923), 15-17; Pastor, VII, 196-207, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 135-142; Guicciardini, XIII, 7, ed. Florence, Salani, 1963, III 265-266; Raynaldus, *Ann. eccl.*, ad ann. 1517, nos. 100-101, vol. XXXI (1877), 177-178; Sanudo, *Diarii*, XXIV, 449, 451 ff., 462, 465-466, 521 ff., and vol. XXV, 65; Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6, fols. 165<sup>r</sup>-167<sup>r</sup>, 169-171.

<sup>111</sup> Raynaldus, *Ann. eccl.*, ad ann. 1517, nos. 1-2, vol. XXXI (1877), 149; Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 541-542. The king of Hungary as well as other European sovereigns received Leo X's brief recounting the Turkish victory in Syria (Sanudo, *Diarii*, XXIV, 100). On 21 April, 1517, Francesco Guicciardini wrote that "questa nuova del Turco, se è vera, è grandissima cosa . . ." (Roberto Palmarocchi, ed., *Carteggi di Francesco Guicciardini*, II [Bologna, 1939], no. 110, p. 90). It was indeed.

Maximilian was grieved by Selim's success, but he was sure that this very success would awaken Christians to their peril. God had often given strength to the enemy to punish the sins of His own people. Although the sentiments expressed in the pope's letter were most gratifying to Maximilian, he was surprised "that your Holiness wants God to open our ears to hear sometimes the voice of truth." But it was not he who had slumbered to the eleventh hour, he said, finally to be awakened by an overwhelming Turkish victory. He had long foreseen what was now before the eyes of the world. He had warned Leo's predecessors of the need of taking counsel for the safety of the Christian commonwealth, but there had always been those opponents of the crusade who had enviously struggled against his efforts to promote it. An expedition against the Turks had long been necessary, no more so now than formerly, but one could thank God for the present incitement to arms and for Leo's own leadership. Maximilian said that he had not learned the art of war to attack Christian cities but to defend them, and now that Leo summoned the princes to make peace in Europe there would be no hesitation in his response. He knew well the glory of the crusade. Let his Holiness but raise the standard of Christ and embark against the enemy. Maximilian would join the crusade, and devote all his strength and resources to it. Old age would not stay his step; if he lost his life, he would hope to live again in eternal glory. He urged Leo to go on without flinching, trusting in divine assistance, but he warned that, if these pious plans now vanished into thin air as others had done in the past, God could bear witness that it was not the emperor who had failed the cause of Christendom.<sup>112</sup> If the urbane pope frowned at

the conclusion to the letter, he could nonetheless smile at Maximilian's unblushing picture of himself as the virtuous prince.

After Andrea Piperario, secretary of the council, had read letters from Francis I, Charles V, and other rulers pledging similar support for the crusade, other business was discussed, and then Marino Grimani, the new patriarch of Aquileia, read the bull *Constituti juxta verbum prophetarum* which reviewed the work of the council. Julius II had convoked it and held five sessions; Leo had continued its work through the remaining sessions. The Gallican schism had been healed; the prospects for peace looked good; and plans were being made for the reform of the Curia. But one of the prime objects of the council, it was said, had been to launch a crusade against the Turks. Since the fall of Constantinople in the time of Nicholas V, Leo's predecessors had planned an expedition to avenge the injury then inflicted upon the faith and to repress the fury of the infidels, and now Leo in his turn imposed a three years' tithe to be levied for the crusade *in universo orbe*. It was to be paid by churches, monasteries, and holders of ecclesiastical benefices. With a final admonition to the princes of Europe to keep the peace, Leo dismissed the attending fathers to return to their churches.<sup>113</sup>

Not all the fathers were happy, however, with what had been accomplished at the council. With the frankness often found in the diaries of the *cercemonieri*, which were never intended for pub-

<sup>112</sup> Raynaldus, *Ann. eccl.*, ad ann. 1517, nos. 2-5, vol. XXXI, 149-151. Sanudo, *Diarii*, XXIV, 104, summarizes a Venetian dispatch from Rome describing the twelfth and last session of the Lateran Council and the reading of Maximilian's letter to the pope, on which cf. Mansi, *Sacra concilia*, XXXII (Paris, 1902), cols. 977 ff. Before the last session (on 16 March, 1517) Sadoletto had read the text to a congregation of the cardinals, after which Andrea Piperario, the conciliar secretary, read it to the assembled fathers (Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6 [from the Archivum Consistoriale], fols. 140'-141', and Acta Consistorialia, Acta Miscell., no. 31, fol. 66). At a consistory held on 23 March (1517) Sadoletto read the pope's briefs in reply to Maximilian's letters concerning both the council and the crusade (Acta Miscellanea, Reg. 6, fol. 143).

<sup>113</sup> Raynaldus, *Ann. eccl.*, ad ann. 1517, nos. 6-15, vol. XXXI (1877), 151-154; Hefele, Hergenroether, and Leclercq, *Hist. des conciles*, VIII-1 (1917), 543. Cf. the pope's letter to Francis I, dated at Rome on 17 March, 1517, in Charrière, I, 23-24, note: "... Heri, qui dies huius mensis sextus decimus fuit, clausimus Deo concedente atque eodem inspirante sacrosanctam Lateranensem synodum. . . Et nunc in hac duodecima atque ultima eiusdem sacri Lateranensis concilii sessione ipsum expeditionem, sacro eodem approbante concilio, contra infideles suscipiendam decrevimus. . ." Nevertheless, the French were not displaying a cooperative attitude at the Curia Romana, as Alberto Pio da Carpi wrote Maximilian on 1 May: "Plurima preteritis diebus significavi Maiestati Vestre que tunc accidebant, et inter cetera de atrocibus querelis et minacibus verbis Gallorum et de impudentibus petitionibus eorum adversus Sanctissimum Dominum Nostrum. . ." (Lea MS. 414, Library, Univ. of Pennsylvania). There is a brief and superficial sketch of Leo X's crusading endeavors in J. Martin, "Le Saint-Siège et la question d'Orient au XVI<sup>e</sup> siècle: Projets de croisade sous le règne de Léon X," *Revue d'histoire diplomatique*, XXX (1916), 35-42, drawn entirely from Pastor and without references to the sources.

lication, Paride Grassi states that "many and almost a majority have said that this is not the time to close a council but rather to open one: it is also not the time to impose tithes especially since there is no hope of an expedition against the Turks, but if actually and in truth an expedition should be organized, then the tithes should also be collected. . . ." <sup>114</sup> If such complaints were justified, and of course events would prove them so, the Hungarians, Hospitallers, and others faced a harsh future. Valuable time had been lost while the Sultan Selim was campaigning in the East. His conquest of Egypt had converted Alexandria into an Ottoman port with immediate, unimpeded access to the Mediterranean. He need no longer fear the Persians, and he had destroyed the Mamlûks. Turkish corsairs were cruising in the Tyrrhenian Sea, and well might members of the Curia fear an attack upon Italy.

Despite the rather cynical views of the conciliar fathers, who preferred to see tithes levied on the laity than on themselves, Pope Leo X had begun to live in unceasing fear of the Turk. On 9 May, 1517, Pietro Bembo wrote Francis I in the pope's name that twice already his Majesty had been reminded of the likely consequences of the Turkish conquest of Egypt. Leo urged Francis to take the cross in accord with the decree of the final session of the Lateran Council, and he wanted the French government either to send new envoys to Rome or to authorize those it now had at the Curia "to do the things which must be done" (*iis quae opus essent faciendis*). The Turkish sultan had just added the wealth and arms of Syria and Egypt to those he already possessed. Francis must join a union of the Christian princes to resist the Turk, whose enormous fleet would certainly be employed for the devastation and destruction of Christendom. God would hold the king of France accountable as well as the pope for the use they now made of the resources He had given them. Francis must gird for war against the Turk. The eyes of Europe were upon him, and men must now admire his courage no less than his good fortune. News had come to the Curia that forty Turkish ships had recently been sighted between Corsica and Sardinia, filling the Tyrrhenian Sea and the islands with fear and trembling. The pope re-

quested Francis to send the ships he had at Genoa and Marseilles—"and I know for certain that you have some"—into Italian waters in order to patrol and protect the threatened shores of the peninsula in cooperation with the papal and Neapolitan fleets. <sup>115</sup>

Leo X seems to have had but slight freedom from anxiety to enjoy the papacy which God had given him. <sup>116</sup> The Turks were revelling in their eastern victories, according to a papal brief written by Sadoleto to Francis I (on 2 July, 1517), and were now thirsting for the flow of Christian blood. Indeed, the nauseating arrogance of a letter sent by the Turkish captain in the Egyptian theater of operations to Fabrizio del Carretto, the grand master of the Hospitallers (whom he dubs, as the least of his insults, a "mangy dog"), must needs turn the stomach of a lesser man than the king of France. The Holy See and the Christian commonwealth looked to Francis for protection against the savage foe, and Leo again urged the immediate dispatch of French envoys to Rome to arrange for armed opposition to the Turks. Speed was necessary lest destruction come even before the defense had been planned. "We

<sup>115</sup> Bembo, *Epp.*, XV, 17, in *Opere*, IV, 127-128, dated at Rome "VII Idus Maias, anno quinto" [1517]. Cf. Zinkeisen, II, 598. Although there was much tension between the Curia Romana and the French court at this time, as illustrated by Alberto da Carpi's letter to Maximilian of 1 May, 1517 (cited above), Francis I was beginning to make some effort to relieve it—Carpi writes in the same letter: ". . . Interim supervenire quaedam littere oratoris Summi Pontificis ex Gallia quibus scribit c[on]sepisse Regis animum mol[is] i[re] et ei dixisse mitiora verba solitis, immo plena reverentia et devotione erga hanc Sanctam Sedem . . ." (Lea MS. 414, Univ. of Penna.).

<sup>116</sup> According to the report which the Venetian ambassador Marino Giorgi (Zorzi) made to the Senate on 17 March, 1517, Leo X did in fact say to his brother Giuliano some time after his election, "Godiamci il papato, poichè Dio ce l'ha dato" (Sanudo, *Diarii*, XXIV, 90). On the election of Giorgi as ambassador to Rome in January, 1515, see Sanudo, XIX, 393. He arrived in Rome at the beginning of April (*ibid.*, XX, 101), about two years after Leo's alleged statement. Pastor, *Gesch. d. Päpste*, IV-1 (repr. 1956), 353, and *Hist. Popes*, VIII, 76, believes "Giorgi wiederholt wahrscheinlich nur eine Anekdote der Anticamera," and Rodocanachi, *Le Pontificat de Léon X*, p. 37, also doubts that Leo could have been guilty of such an indiscreet statement. Giorgi's actual commission I find dated 22 March, 1515, in the Archivio di Stato di Venezia, Sen. Secreta, Reg. 46, fols. 104<sup>r</sup> ff., *Commissio viri nobilis Marini Georgii doctoris, oratoris proficiscentis ad Leonem X, summum pontificem*.

<sup>114</sup> Paride Grassi, in Raynaldus, *Ann. eccl.*, ad ann. 1517, no. 16, vol. XXXI (1877), 154.

beg of you, therefore, most beloved son, listen now to the voice of God calling upon you. . . ." <sup>117</sup>

At the beginning of November, 1517, with the usual alarming news of Turkish success coming from the East, Leo X assembled certain members of the Sacred College and, as was customary in matters concerning the crusade, all the members of the diplomatic corps accredited to the Holy See. He spoke of the overwhelming danger which threatened the very extinction of the Christian religion (. . . *fore procul dubio ut brevi tota Christiana religio pessum eat*), according to the account preserved in an unpublished letter of Alberto Pio, count of Carpi, the Emperor Maximilian's ambassador to Rome. Now that the Turks had taken Egypt, the pope said, and possessed almost all the eastern Roman empire, and had prepared a powerful fleet on the Hellespont, they no longer made Sicily or even Italy the object of their ambition, but aspired to dominance over the entire world. <sup>118</sup>

<sup>117</sup> Charrière, I, 24-27. The offensive letter of the Turkish captain to the Grand Master del Carretto is clearly that given in Sanudo, *Diarii*, XXIV, 440-441: ". . . e tu che sei uno cane rognoso de una mandra, cane figlio di cane, cane de lo inferno, e tu te chiami grande cane al tempo del Signor che governa el mondo, come è questo?" Cf. Rawdon Brown, ed., *Calendar of State Papers: . . . , Venice*, II (London, 1867), no. 915, pp. 396-397.

<sup>118</sup> Alberto da Carpi's letter to Maximilian is dated at Rome on 7 November, 1517. It may be found in the collection of his correspondence in the Lea Library (MS. 414), University of Pennsylvania. The conclusion of the letter is missing:

"Sacratissime invictissimeque Caesar: Sanctissimus Dominus Noster diebus preteritis congregatis quibusdam reverendissimis cardinalibus ad se convocari fecit omnes principum Christianorum oratores in Curia agentes quibus exposuit que ex multorum litteris et nunciis acceperat de victoriis ac prospero rerum successu inmauissimis Christiani nominis hostis Turcorum principis et in quot ac quam maximis periculis universa Christiana respublica versaretur cui ni oportune a principibus Christianis succurratur, fore procul dubio ut brevi tota Christiana religio pessum eat. Cum atrocissimi Turce Alexandria, Aegypto ac toto fere Romani imperii oriente in potestatem suam redacto, parata in Hellesponto potentissima classe, iam non Sicilie, non Italie solum sed totius orbis imperio inhiant, prorsus sibi videri opportunum ut principes Christiani seade iam colligerent, secum habitarent, et super tanta re consilia inirent ut quam maiores nostri pro laude et gloria tantum a tuo seculis exoptarent, una omnium maxime necessaria nunc pro aris, pro communi salute expedit in Turcas suscipiatur.

"Iniungens eius Beatitudo omnibus oratoribus, qui aderant, scriberent hac de re ad suos principes imprimis mihi cum Maiestatem Vestram Christiane reipublice

Leo now continued with the old refrain that the Christian princes should get together, and take counsel what was to be done. He reminded the ambassadors of the centuries of fame and glory their ancestors had achieved in the crusade. An expedition against the Turks was necessary to protect the altars of Christendom and to assure the common safety of Europe. His Holiness asked the ambassadors to write to their principals, and at this point apparently his eyes sought those of Alberto Pio himself. Leo wanted each of the princes to consider the gravity of the peril which was hanging over him, and transmit his ideas to the Curia in writing, each prince specifying the contribution he would make in the war against the Turks. In the meantime peace must be restored to Europe so that every prince might be assured of the safety of his dominions and give his whole-hearted attention to the great problem which confronted them all.

Alberto Pio, who had interpreted the pope's gesture to him as meaning that a special obligation rested on the emperor's shoulders, now stated that Maximilian had always been a strong advocate of the crusade. This fact was clear, he said, from various letters which Maximilian had written, including those read at the Fifth Lateran

arce caputque esse sciat que semper saluberrimam adversus infideles expeditionem et optavit et suasit. Volens oransque eius Sanctitatis ut quisque principum Christianorum de hoc gravissimo periculo, quod cervicibus ipsorum imminet, consulat, decernat, et suam sententiam de huiusmodi expeditione proferat, et ad se descriptam transmittat, cum his que quisque illorum in hoc bellum sit oblaturus, hoc etiam addens valde expedire ad presentis rei negotium obeundum ut interim communes inducie inter principes Christianos fieret ut, regnis ipsorum securis ab omnique hostili vi liberis, alacrioribus animis huiusmodi provinciam capere possint.

"Cui ego respondi Maiestatem Vestram semper fuisse optime animatum ad hoc preclarum facinus summisque votis expetisse pro salute Christiane reipublice huiusmodi in Turcas expeditionem, quod cum aliarum litterarum Maiestatis Vestre tum que in postremo Lateranensi Concilio recitate fuerunt testimonio comprobatur Maiestatemque Vestram quamquam multis aliis impeditam tamen propediem ad me procuratoria hac de re transmissuram, nam omnium principum oratores qui sunt in Curia habent sua procuratoria super hoc negotio, me et Serenissimi Anglici Regis oratore excepto dixique me de his omnibus ad Maiestatem Vestram scripturum id quod facio cuius bene gratie. . ." [the copy of the letter in the Lea Library breaks off here].

Little escaped Sanudo, who describes Alberto da Carpi's participation in the meeting called by Leo X (*Diarii*, XXV, 85, from letters of the Venetian ambassador in Rome, dated 10-11 November, 1517).

Council. But his imperial Majesty, although beset by many difficulties, would quickly send Alberto Pio his letters of procuration (*procuratoria*) for the crusade, for all the ambassadors at the Curia apparently had such letters except him and the English ambassador.<sup>119</sup> As for Henry VIII, although he made favorable noises concerning the crusade from time to time, by and large he could hardly have been less concerned about the Turks if they had lived on another planet. But of course the crusading tradition of French chivalry caused the Turkish peril to be discussed more seriously, or at least more often, at the court of Francis I.

According to a letter of 5 November, 1517, written in the name of the Cardinal Giulio de' Medici (later Pope Clement VII) to Antonio Pucci, then papal nuncio to the Swiss, Francis I had sent Lescun from Milan to the Curia Romana to urge the pope to press forward with plans for the crusade "et offerendo tucte le forze sue." Leo X was said to be greatly consoled by Lescun's visit, because there was nothing he desired in all the world so much as to see the launching of an expedition against the Turks. In consistory he formed a "deputation" or commission of eight cardinals—Carvajal, Romolino, Fieschi, Grassi, Pucci, Medici, Farnese, and Cornaro—to study and deal with the matter. The purpose of the commission was to study the logistics of a crusade and the military and naval resources of the Ottoman empire.<sup>120</sup> The recommendations of this commission were to form the basis of a special report on the requirements for an expedition against the Turks. The pope's intention was to send a copy of this report to the chief sovereigns of Europe. We shall return to its contents presently. It is a noteworthy document.

Antonio Pucci was to inform the Swiss of developments at the Curia Romana and to encourage them to join the expedition. Perhaps Charles III of Savoy would take the cross although he then had his differences with his nephew, Francis I, who had unfortunately many enemies in Switzerland.<sup>121</sup> On the tenth a letter was addressed to Giovanni Staffileo, bishop of Sebenico and nuncio to France,<sup>122</sup> concerning "this holy enterprise against the Turk, which every hour is known to become of larger moment and greater necessity." Francis was to have the crusading levy and the title he had requested, but they were to be employed for no other purpose than helping to finance the anti-Turkish expedition.<sup>123</sup>

<sup>121</sup> Cesare Guasti, ed., "Manoscritti Torrigiani," *Archivio storico italiano*, XXI (1875), 189-190. Antonio Pucci was the nephew of the Cardinal Lorenzo (Desjardins and Canestrini, II, 665, note, and Sanudo, *Diarii*, XXVI, 213). He left Rome on the Swiss mission in August, 1517 (Sanudo, *Diarii*, XXIV, 569). The Curia Romana tried hard to reconcile Francis and Charles of Savoy ("MSS. Torrigiani," *ibid.*, XXI, 203-204). The Swiss were alleged to be willing to supply infantry to serve on an anti-Turkish expedition "whenever they should perceive the sovereigns of Christendom united to effect it and ready to act" (Rawdon Brown, ed., *Calendar of State Papers . . . Venice*, II [London, 1867], no. 851, p. 369, doc. dated 6 March, 1517). On 21 October, 1517, Girolamo Lippomani dal Banco wrote Marino Sanudo of the rumor "che'l re di Franza vol vegnir in persona a la impresa contra il Turcho, na vol clausole di non esser molestado in Italia de li soi stadi" (*Diarii*, XXV, 65, and cf. col. 67).

<sup>122</sup> On Staffileo's appointment as nuncio to France, note Sanudo, *Diarii*, XXIV, 543-544.

<sup>123</sup> "Manoscritti Torrigiani," *Arch. stor. ital.*, XXI, 191-192. On 14 November (1517) Staffileo was informed that Leo X was sending three bulls, by one of which he extended the crusading levy (*crociata*) for two years in France and the French dominions *ultra montes*; the second bull provided for another year's title on all ecclesiastical incomes (in the French kingdom and territories *ultra montes*); and the third bull authorized the collection of the title in the now French duchy of Milan. All three bulls outlined the procedures for safeguarding the funds collected and contained penalties for their diversion to any use but the crusade, for (as Staffileo was to explain to Francis I) the pope was moved in all this by extreme necessity and his singular faith in Francis (*ibid.*, pp. 192-193).

The title was extended for one year in the important bull *Etsi ad amplanda ecclesiarum omnium commoda*, which is to be found in the Arch. Segr. Vaticano, Reg. Vat. 1203, fols. 79v-81v, by original enumeration, and Reg. Vat. 1204, fols. 232v-236v, also by original enumeration. In Reg. Vat. 1203, fol. 81v, it is dated 11 November, 1517 ("datum Rome apud Sanctum Petrum anno incarnationis dominice millesimo quingentesimo

<sup>119</sup> *Ibid.* Ducange, *Glossarium*, VI (repr. Graz, 1954), 522, defines *procuratorium* as "litterae quibus aliquod negotium alicui committitur."

<sup>120</sup> On 20 April, 1517, Leo X had already appointed a commission of six cardinals to study the prospects of the crusade (Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6, fol. 144, and cf. Sanudo, *Diarii*, XXIV, 195), but two of its members, Riario and Castellesi, were soon implicated in the conspiracy to kill Leo, and the commission accomplished little. On the commission formed in the consistory of 4 November, 1517, see Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fol. 77', and Acta Miscellanea, Reg. 6, fol. 184, the commission being appointed "ad consulendum et assistendum sue Sanctitati una cum dominis oratoribus principum super expeditione fenda contra Turchas."

On 11 November, 1517, the pope issued a special crusading indulgence in the bull *Humani generis redemptor*. Again he emphasized the increase of Ottoman power as a result of Selim's conquest of Egypt, and gave credence to the report that the "Turcarum tyrannus" was preparing a larger fleet than ever before.<sup>124</sup> At the same time he sent a special brief to the inhabitants of the duchy of Brittany, reminding them of Francis' pledge to go on the "sacred expedition," and granting the usual "plenary indulgence and remission of all sins" to those Bretons who within two years made a proper financial or other contribution to the crusade.<sup>125</sup> A few days later, on 14 November, another bull was issued, *Cogimur ab ecclesiis*, imposing another tithe on the revenues of the clergy throughout France and Brittany, the second such crusading tithe since 17 May, 1516.<sup>126</sup> The crusade was obviously a source of considerable revenue to the French king, to whom the bulk of the proceeds was assigned, but (it must be emphasized) he was to use such funds solely for the crusade. Of course he did not do so, and later on he was to be held accountable for his malfeasance.

When Leo X stipulated that the crusading levy and the tithe were only to be used to help finance

an anti-Turkish expedition, was he merely playing a diplomatic game? Were the pope and the king of France sparring with each other over lucrative sources of income? If there was no crusade, could not Leo be certain that Francis would appropriate the funds to his own use? One must doubtless answer in the affirmative, but a letter of 17 November (1517), sent to Antonio Pucci in the Cardinal de' Medici's name, reveals the state of mind which then obtained in the Curia Romana:

The question of the crusade [*questa impresa*] gets hotter every day, and the more we deal with it, the more we perceive its necessity, because there is certainly agreement on two most important facts. First, while it was believed that the Signore [Selim] would remain a year or so in Syria and in Egypt to consolidate his victories, which have been incredible, he is returning to Constantinople, where we think he has already arrived, loaded with gold, and with such fame and ambition as can be imagined! Second, he is again preparing a huge armada beyond anything that can be found at present, and he pays attention to nothing but collecting artillery, building ships, and surveying all these seas and the islands of Europe. . . .

If God did not interpose a helping hand, it was the writer's opinion that Christendom might well be facing catastrophe. Pucci was assured, however, that Leo X would not fail to do his duty; he would go on the expedition, and would risk his own life for the Christian flock.<sup>127</sup>

decimo septimo, tertio Idus Novembris, pont. nostri anno quinto"); the bull is dated 1 June, 1517, in Reg. Vat. 1204, fol. 236v. (" . . . Kal. Junii, pont. nostri anno quinto"). Pastor, VII, 227, note, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 156, note, combines the references to the Vatican registers in a meaningless jumble as Reg. 1204, fols. 79v-81v, and misdates the bull "tertio Cal. Nov." (30 October). The Florentine banker Jacopo Salviati, a relative of the pope, handled the funds accruing from the crusading tithe and the indulgence in France (cf. Arm. XL, tom. 3 [*Leonis X Brevia*], no. 251, fol. 167).

<sup>124</sup> Arch. Segr. Vaticano, Reg. Vat. 1203, fols. 82r-83v, "datum . . . tertio Idus Novembris, pont. nostri anno quinto." Cf. *ibid.*, fols. 85v-86v, "datum . . . decimo octavo Kal. Dec. . . anno quinto" (14 November, 1517), and fols. 133v-134r, ". . . octavo Kal. Sept. . . anno sexto" (25 August, 1518), both bulls beginning *Dudum universos Christi fideles*, and relating to financial aspects of the crusading indulgence.

<sup>125</sup> Charrière, I, 28, "datum . . . tertio Idus Nov. . . anno quinto."

<sup>126</sup> Arch. Segr. Vaticano, Reg. Vat. 1203, fols. 84v-85r, "datum Rome apud Sanctum Petrum, anno incarnationis dominice, millesimo quingentesimo decimo septimo, decimo octavo Kalendas Decembris, pontificatus nostri anno quinto." Cf. Charrière, I, 28-29, note, and see above, note 123, for the related bull *Etsi ad amplianda ecclesiarum omnium commoda*. Sanudo, *Diarii*, XXV, 90-91, followed developments in Rome with his usual care.

<sup>127</sup> "Manoscritti Torrigiani," *Arch. stor. italiano*, XXI, 193-194. On Leo X's distress at the Turkish conquest of Egypt, note the letters sent from the Curia Romana on 31 October and 8 and 19 November, 1514, in Desjardins and Canestrini, II, 667-670. But the Venetian Signoria left the provveditore of its fleet in eastern waters no doubt as to the position of the Republic when he received their dispatch dated 4 September, 1517: "Per la prudentia vostra possette ben considerar de quanta importanza sia al stato nostro mantener et conservar la pace che habbiamo cum el serenissimo Signor Turco, et quanto sia officio per ogni via et modo tuor di mezzo tutte quelle cosse che potesseno esser causa de turbare tal bona pace et amicitia," etc. (Arch. di Stato di Venezia, Sen. Secreta, Reg. 47, fol. 76). On the same day the Senate authorized a letter to the bailie in Istanbul expressing the Signoria's distress that Venetian subjects should have injured certain subjects of the Porte, "perche sopra ogni altra cosa desideramo non solo de mantener et conservar la bona amicitia et pace che habbiamo cum sua Excellentia [the sultan], ma etiam de accrescerla et augmentarla come quelli che desiderano la exaltation et gloria sua . . ." (*ibid.*, Reg. 47, fols. 76-77). The Venetians were of course afraid of becoming the object of Turkish hostility and were anxious not to get involved in Leo X's crusading plans, but they hardly wanted to

While we may entertain some doubt on this last observation, it is quite apparent that the Sultan Selim's startling successes had evoked the gravest apprehension in the Curia. Indeed, Selim was now said to have a fleet of 300 galleys (*trirèmes*) ready for action in the harbor of Istanbul as well as a host of shipwrights at work in his arsenal. On 14 November (1517), the very day of the bull imposing the title on France and Brittany, Leo wrote Francis that "the Turk has daily at hand a description and a painted map of the shores of Italy" (*Turcam . . . habere quotidie in manibus descriptionem et picturam littorum Italiae*). Previously one might have borne arms against this enemy in glory. Now it had become a matter of sheer necessity.<sup>128</sup>

Leo X was caught, however, like many statesmen, in the trammels of unalterable circumstance. Another letter was dispatched to Pucci on 17 November. He was to inform the Swiss that the pope had approved a dual leadership for the crusade,

that is, Caesar and the most Christian king [of France], not because [his Holiness] lacks confidence in the king's wisdom, courage, and authority, and does not believe that one commander would be better, but because if the emperor is left out, there is reason to doubt that his imperial Majesty will cooperate with that support which would be necessary, and so perhaps Spain and England also would grow cold to the idea [of an expedition].

The difficulties were obvious. The French and Germans had rarely achieved cooperation in a crusading venture since the ill-fated attempts of Louis VII and Conrad III almost four centuries before. But the writer of the letter, which was sent in the Cardinal Giulio's name, emphasizes that Leo placed all his hope in Francis I, not in Maximilian,<sup>129</sup> whose reputation had of course worn pretty thin by this time. Year after year the same questions were debated, and no answers were found: How was peace to be made in Europe? Who was to exercise the chief command of the crusading forces? Agreement was hard to reach. The arrival of a Turkish ambassador in Venice caused some measure of disquietude in the Curia

Romana, where talk of the crusade was constant, and whence an exhortation was addressed to the Spanish court in an effort to evoke at least a spark of enthusiasm.<sup>130</sup> But time was passing. The Turks seemed to be preparing for an attack, and on 30 December Staffileo, the apostolic nuncio in France, was informed that "our lord [the pope] awaits with great anticipation his Majesty's reply concerning the affairs of the Turk, with some firm resolution which can be put into effect, without having to waste more time in consulting and sending couriers here and there. . . ." <sup>131</sup> Curial impatience was mounting into exasperation.

Leo X did not have long to wait for the recommendations of his crusading commission. From the results of its inquiries a report was to be prepared for presentation to the sovereigns upon whose participation the Curia would have to rely for whatever success the crusade might achieve. Guicciardini has described the background of fear against which the report was composed,<sup>132</sup> and more than a century ago Zinkeisen called it "one of the most noteworthy documents in the history

<sup>130</sup> *Ibid.*, XXI, 197 ff. The Turkish ambassador arrived at the beginning of November, 1517, as appears from the Arch. di Stato di Venezia, Sen. Secreta, Reg. 47, fols. 86 ff., archival copy of a letter dated 5 November to the Venetian bailie in Istanbul: "Questi proximi zorni e arrivato qui el magnifico Alibei orator del serenissimo Gran Signor venuto de Polonia dove le stato molti mesi, et e sta honorato et veduto de la Signoria nostra cum quel modo et bon et alegro volto che ricerca la bona pace et amicitia havemo cum el suo serenissimo Gran Signor et anche lamor che portamo ad epsio magnifico Alibei per le sue virtù et prestante sue conditione. Ne ha presentata una lettera data in Alepo de Septembrio 1516 per laqual sua serenissima Signoria ne scrive mandare epsio ambassador ad darne nova dela victoria et de lacquistio fatto del paese et signoria teneva el soldan del Cayro. . . . Nui veramente li habiamo risposto che de li felici successi et grande victoria del suo serenissimo Signor come immediate facessemo intender per lettere nostre direttive a sua Serenità et per li oratori nostri che li habiamo mandati, ne habiamo sentito tanto apiacere, etiam se ne siamo tanto ralegrati quanto possi haver alcun altro suo bon et vero amico et tanto più che sapendo che lui e signor de iustitia et rason et poi ha bona pace et amicitia cum la Signoria nostra. Semo certi che li subditi et mercadanti nostri che praticano et nela Soria et nel Egypto saranno molto meglio veduti et tractati che per il preterito et non sara permesso gli sia fatta senon bona et dretta rason. . . ." Cf. also the letter of the Senate to Selim dated 10 November (1517), which was read to the Collegio before being sent (*ibid.*, fol. 87v).

<sup>131</sup> *Ibid.*, XXI, 205.

<sup>132</sup> *Storia d'Italia*, XIII, 9, ed. Florence, Salani, 1963, III, 278 ff.

see the sultan's acquisition of further glory: such letters were written so that, if necessary, the bailie could show them to the pashas.

<sup>128</sup> Charrière, I, 29-30, with notes, letter written by Sadoleto and dated at S. Peter's on 14 November, 1517.

<sup>129</sup> "Manoscritti Torrigiani," *Arch. stor. italiano*, XXI, 195.

of the European movement against the Ottoman empire in the sixteenth century."<sup>133</sup> The memorial takes the scholastic form of a series of (six) major topics presented as questions to which answers are given. It is dated 16 November, 1517,<sup>134</sup> which makes it clear that the commission of cardinals discharged its responsibility quickly.

The first question was whether the war should be undertaken, the response being that this decision was not to be reached by any investigation of the problem (*consultatio*): an aggressive enemy, determined upon the destruction of Christianity, left no alternative to war: there is no scope for "consultation" when necessity has intervened. The second question, whether the war was to be offensive or defensive, was as easily answered: the advantages of offensive warfare were well understood, among them being the possible revelation of unexpected weaknesses in the enemy. Thirdly, it was asked what impediments there might be to the war, and how they were to be removed. The chief impediment was promptly identified as the "discords and dissensions among the Christian princes themselves," for which the remedy proposed was a general armistice (*generales inducie*) for at least a year, to start with, and then for six months beyond the conclusion of the crusade. The armistice was to be guaranteed by the solemn oath of all the princes, its infraction to be met with the full measure of ecclesiastical penalties and the offender's citation as a public enemy. Disputes would be settled by the pope and the college of cardinals or else their resolution would be postponed until after the war. The commission further proposed in this regard a sworn alliance between the princes and the pope, with the same (ecclesiastical) penalties being provided for its violation, all members

of the alliance being also pledged to make war upon any one of their number guilty of violating its terms: "and this alliance might be called the 'fraternitas Sanctae Cruciatæ'."<sup>135</sup>

Although the answers to the remaining three questions occupy by far the largest portion of the memorial, we may note them rather quickly. The fourth query was whether the war should be waged by all the princes, or by some only, and (of the latter) by which ones. The answer was rather vague. All the princes should make their contribution to the great cause, but the German emperor and the king of France were preeminently fitted to lead the united host "for many reasons . . . which we shall not enumerate, because they are quite clear." The fifth topic dealt with the means of carrying on the war (*apparatus belli*). Divine favor had to be assured by prayers, fasts, alms, and sacrifices. Preachers would be sent among all peoples to call them to a penitence that would be pleasing to God. Funds were also needed, the "sinews of war," and considering the length and breadth of the Ottoman empire, to which Egypt and Syria had just been added, as well as the sultan's vast wealth in men and money, large sums would have to be raised. In fact about 8,000,000 ducats would have to be found,<sup>136</sup> but this could easily be done (the commission blithely assumed), because the kings could furnish a good part of this amount from their regular revenues (*vectigalia*), as well they should, it is said, because their own future was at stake. The Turks did not bother much with the common people; they sought the heads of the nobles and princes. Wherever the infidel had conquered, he had destroyed the local nobility with fearful cruelty. What part of the total amount needed should come from the royal and princely revenues, the commission refrained from suggesting, leaving it to the "prudence and liberality" of those

<sup>133</sup> Zinkeisen, II, 594-598, followed very closely by Pastor, VII, 223-226, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 153-155. Before 21 November, 1517, Marco Minio, the Venetian ambassador in Rome, had not yet been able to send a copy to Venice of "gli articoli conclusi nella ultima congregation per esser di molta scriptura" (and the text is long enough), but he knew the contents of the document: "Il disegno è bello et grande, ma dubita non sia come quelli modelli che non vengono poi a perfectione" (Sanudo, *Diarii*, XXV, 94). Minio sent the text to Venice late in the day on 21 November (*ibid.*, XXV, 106).

<sup>134</sup> Cf. Raynaldus, *Ann. eccl.*, ad ann. 1517, no. 32, vol. XXXI (1877), 159a; the text is dated 12 November in the "Manoscritti Torrigiani," *Archivio storico italiano*, 3rd ser., XXVI (1877), 187.

<sup>135</sup> Leo X's memorial on the projected crusade is published in Charrière, I, 31-41, and (partially) in Raynaldus, *Ann. eccl.*, ad ann. 1517, nos. 32-54, vol. XXXI (1877), 159-163. These texts differ somewhat, and Raynaldus unfortunately omits the questions to which the successive paragraphs he prints supply the answers! The vigilant Sanudo, *Diarii*, XXV, 95-106, soon acquired an excellent copy of the text, which with some slight variations is the same as that given in Charrière.

<sup>136</sup> Both Zinkeisen, II, 596, and Pastor, VII, 224, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 154, read *octuagies centena millia aureum* as meaning 800,000 ducats! Rodonacchi, *Le Pontificat de Léon X*, p. 141, makes the same mistake, but doubtless never read the Latin text.



whose lives, honor, and states were thus alleged to be in the balance.<sup>137</sup>

Both ecclesiastical and lay tithes were also considered in the memorial, as well as other kinds of assessments including the crusading indulgences. "from which, if war shall be waged in earnest, great sums will assuredly be collected," for the faith was not dead in the hearts of Christians, and there were many who would purchase eternal life for a small sum if they saw that war was being truly waged on God's behalf. The usual arrangements were suggested for collecting and handling funds. The ordinary of each diocese should depute one priest and the cathedral chapter a second, who should work with one or two citizens or priests or monks to be chosen by the municipal government (*universitas civium*), as it should decide, and these acting together should collect the sums accruing from the sale of indulgences, and secure them in a suitable strong box. Each member of the group should have a key to one of the locks, so that no one of them could get at the contents without the others also being present. The receipt of all sums should be diligently recorded in writing, exchange carefully supervised, and so on. Next the commission took up the recruitment of troops. At least 60,000 infantry would be needed, to be sought among the Swiss, "Germans whom they call Landsknechte," Spanish, and Czechs. The best heavily armed cavalry were said to be French and Italian, of whom 4,000 would be required, while 12,000 light armed horse would have to be recruited from the Spanish, Italians, Albanians, and Greeks. These land forces would, of course, need good leadership, sufficient provisions, and adequate equipment. For the war at sea a fleet should be collected from the Venetians and Genoese; the French of Provence, Brittany, and elsewhere; Spanish both from the Iberian peninsula and the two Sicilies; as well as from the abundant reservoirs of men and ships in England and Portugal.<sup>138</sup>

The sixth and last question related to the conduct of the war, in which the importance of a fleet to go with the land army was emphasized. The Turks had 300 galleys, and were believed to be preparing additional transports for horses. The Christians could not expect to acquire so many galleys, but could certainly build up a fleet of greater strength. The king of France could sup-

ply twenty galleys, already having a number in the harbor of Marseilles; the king of Spain could provide a like number by adding eight to the dozen galleys he already had in Sicily. Venice could provide forty, and Genoa twenty. The pope and the cardinals would try to add ten galleys to the fleet. Other large ships, *quas carracas seu galleones vocamus*, could readily be got from France and England, Spain and Portugal. Other nations would of course be asked to make their contributions to the fleet. Three ways were considered into Ottoman territory. One might go through Germany and Hungary, the Danube offering a convenient approach to Constantinople, although certain princes might not like this route. The way through Dalmatia and Illyricum was difficult, and the terrain too rugged for cavalry. The commission suggested that the emperor and the king of France might do well to go through Italy, embarking at Ancona and Brindisi for Greece and Egypt. The fleet should then assemble in Sicily to transport the land forces from Ancona and Brindisi. A beachhead could of course be established in Ottoman territory, just across the Adriatic, at Durazzo, which could easily be captured if the Christian fleet and army converged at that point. According to Guicciardini, the plan actually was for the emperor, together with the Hungarians and the Poles, to descend the Danube valley and approach Constantinople through Thrace while the king of France and the Italians were to go by way of Brindisi into Albania and Greece. The Spanish, Portuguese, and English fleets should assemble at Cartagena and thence proceed directly to the Dardanelles. The pope would sail from Ancona.<sup>139</sup>

The transport of supplies from Italy "and even from France" was considered (rather too briefly), and the commission indicated that the greatest caution had to be employed in dealing only with merchants who would supply provisions at honest prices. Arbiters should immediately be chosen to assign the conquests; in this capacity the pope and the college of cardinals might serve, or others on whom the princes might reach a mutual agreement; and in any event division of lands and the spoils of war should be made in accordance with

<sup>137</sup> Charrière, I, 34.

<sup>138</sup> Charrière, I, 34-37.

<sup>139</sup> Charrière, I, 37-39; Guicciardini, *Storia d'Italia*, XIII, 9, ed. Florence, Salani, 1963, III, 278-279, whose account differs from the plan set forth in the memorandum of the commission, and is rather inaccurately summarized in Zinkeisen, II, 597, note 1.

the recipients' contributions to the crusade. Glorious adventure and splendid opportunity lay ahead. However powerful and fierce the Ottoman enemy might be, he was inferior to the European in character (*virtus*), military strength, and discipline, *que in bellis valent maxime*; hence with God's help the proposed expedition might be assured of victory. The kings and princes, therefore, would do their part to win the favor of God, increase their wealth, win everlasting praise among men, and have their names written upon the very heavens.<sup>140</sup>

Copies of this elaborate document were promptly sent to Francis I and Maximilian, and soon produced rejoinders from them both. The French reply is dated 23 December (1517). In it Francis heartily agreed with the necessity for peace in Europe during the crusade, and bound France to the observance of such a peace. The major problem would be a financial one; much money would be needed for soldiers' pay and the maintenance of artillery. Francis would do his best to help secure such funds both from the laity and, following the pope's advice, from the clergy, but a year's tithe would not go far to support an enterprise like the crusade, "*car la dévotion du peuple est si petite, qu'il ne revient quasi rien d'icelle!*" He indicated the very considerable extent to which he was willing (according to him) to recruit troops and furnish artillery, but he warned that it would cost great sums each month, and it was essential to know what proportions of the cost the laity and clergy of each country were going to pay. A single great crusading army, however, with an imperfectly centralized command, would inevitably suffer from "disorder and discord" like the army of Darius the Persian. One could not feed so many men, and instead of making war upon the Turks they would fight among themselves. If the French went by way of Brindisi, the Germans, Hungarians, and Poles should go by way of Hungary, and the Spanish, English, and Portuguese by sea. As for the division of conquered territories, Francis thought that preference should be given to those who would be willing to reside in such territories and would have the means to defend them against reconquest by the Turks.<sup>141</sup>

The German answer to the memorial drafted by the papal commission was prepared in the imperial council. It was received in Rome early in the year 1518. Beginning with a rhetorical rehearsal of the cruel course of Turkish conquest, Maximilian's councillors praised the knowledge and wisdom displayed in the memorial, but there is manifest throughout the German document annoyance with the important role which the pope had assigned to the king of France in the projected crusade. The German nation, the councillors said quite truly, comprised many states with many different laws and customs, and no such huge enterprise as that envisaged in the pope's memorial could be organized on short order as far as the imperial domain was concerned. The Germans as usual had rather elaborate plans: in this case it was to take three years to work them out; and in the meantime the pope was instructed on the best way to recruit a crusading army and given numerous suggestions as to soldiers' wages, taxes, and artillery. A five or

2, calls attention to the Latin version of the French answer to the cardinals' memorandum in the Cod. Vat. 3922, fols. 116-118v. It is dated 23 December, 1517, which Pastor regards as the correct date (rather than 16 December). He is probably right. In his discerning study of Francis I's eastern policies, J. Ursu, *La Politique orientale* (1908), pp. 12-13, observes, "*Naturellement la descente de l'armée française devait se faire par l'Italie, ce qui à juste titre éveillait des soupçons dans l'esprit de l'Empereur*"; but he seems not to have noticed that French (and, to be sure, imperial) passage through Italy had already been recommended by the papal commission: certainly imperial suspicions would have been more keenly aroused if Francis had proposed to march through Germany and Hungary, while the Germans, Hungarians, and Poles the northern Balkan route toward Istanbul was far more direct and would have required far less transport. That the papal commission should suggest that French and imperial troops march almost the length of Italy for embarkation at Ancona and Brindisi shows the Curia Romana was willing to take considerable risks on behalf of the crusade, which also never seems to occur to Ursu. As for Francis' suggestion that the troops of the great powers go eastward separately, the history of the Crusades from the later eleventh century bears constant witness to the obvious wisdom of such a procedure.

Since arrangements were being made at this time for the marriage of the pope's nephew Lorenzo de' Medici with a French princess, the Curia Romana hoped to find Francis I especially cooperative on the question of the crusade (cf. Pastor, *Gesch. d. Päpste*, IV-1, 156, and Sanudo, XXV, 211, 213, 223). If the way could be found to pay them, Francis undertook to provide 4,000 men-at-arms, 8,000 light horse, and 50,000 foot soldiers for the crusade (Charrière, I, 43).

<sup>140</sup> Charrière, I, 39-41.

<sup>141</sup> Charrière, I, 41-46, "escript à Amboise, le seiziesme jour de décembre [1517], [signed] vostre très-obéissant filz, François." Pastor *Gesch. d. Päpste*, IV-1, 157, note

six years' peace in Europe must provide the necessary background to the crusade. Instead of a single great undertaking, however, the emperor's advisers proposed a series of different expeditions prolonged over a three-year period. The first was to take place as soon as possible, in 1518, against North Africa (where at Algiers the Spanish had been defeated the year before); the commanders of the African expedition should be the emperor and the kings of Spain and Portugal, while the most serene king of France would support their efforts with his fleet. Since Maximilian's grandson, Charles [V], had recently become the king of Spain, this plan was not likely to be regarded either in Rome or in Paris as a disinterested proposal to help the cause of Christendom against the Turks. A second expedition of Poles, Hungarians, Czechs, Silesians, and Austrians, to whom Maximilian would furnish artillery, should also be set in motion to strike more directly at the Ottoman empire. A year later (i.e., in 1519) Francis I, having risked his ships in the African expedition for the benefit of Spain, could then go via Italy through the Balkans by way of Novi-Bazar, where an army under the king of Poland could join him, and together the French and Poles, Vlachs, Moldavians, and others could push on through Philippopolis and Adrianople to the shores of the Bosphorus.

In the third year (1520), "after the liberation of Africa, as we hope, and the storming of the cities of Algiers and Alexandria, as well as the scattering and destruction of the Turkish fleet, in accord with our plan," Maximilian and the king of Portugal would attack Greece in conjunction with the kings of France and Poland. They would lay siege to the sultan in Constantinople and, after taking the city, would go on into Anatolia "and other more distant Turkish territories," thus putting an end to the Ottoman menace. The Persians would assist the Christians and might have one-half of Anatolia as well as all Caramania and Armenia, but the rest of Asia and Africa, especially Egypt and the Holy Land, would of course be taken over by the Christians. There would be a just division of the conquests. The plan should be put into operation as soon as possible, beginning with the African expedition.<sup>142</sup>

French forces, having aided the Hapsburgs to add North Africa to their far-flung domains, would thus be permitted to share with the emperor the glory (and perils) of taking Istanbul and adding Anatolia, Syria, Palestine, and Egypt to the so-called commonwealth of Christian nations. Although Zinkeisen regards the German councillors' document as a "sehr gründliche Arbeit,"<sup>143</sup> one can hardly believe that they expected either the pope or the king of France to take it seriously. The young Charles of Spain added his own comments to the others being expressed on the memorandum: Since the season was too far advanced and the princes unprepared for action, the best that could be done for a year was to stand firm against Islam, and make "bonne provision" in the places most important to the crusade, such as Naples, Sicily, the March of Ancona, and certain others. In these places 20,000 infantry and 5,000 horse should be concentrated, to be paid for by the pope, the kings of France and Spain, the Venetians, Florentines, and some other Italian states. Charles already had thousands of men under arms in Italy and elsewhere, and with a detachment of 2,000 horse and 8,000 foot from the king of France and 1,000 horse from the pope (the French and papal forces to assemble in Ancona), there seemed for the present to be no immediate need of additional recruitments, provided Charles received the necessary financial assistance to maintain his troops.<sup>144</sup>

Turkish question, allegedly delivered to the German princes and estates at the diet of Augsburg in 1518, see *Imp. Maximilian I . . . De bello Turcico ad principes et ordines sacri Rom. Imperii in Comitibus habita Oratio . . . Anno MDXIX*, Helmstädt (in Brunswick), "typis Henningi Mulleri, acad. typ." 1664; to the diet of Augsburg Ulrich von Hutten addressed his *Exhortatio*, urging the princes to organize a united offensive against the Turks, his prefatory epistle to Conrad Peutinger being dated at Mainz 25 May, 1518, and the work being printed at Augsburg in 1518, presumably after August: "In officina excusoria Sigismundi Grimm Medici et Marci Vuyrsung, Augustae, An. MDXVIII." Carl Göllner, *Turcica*, I (1961), lists some eighty anti-Turkish imprints as issuing from the European presses during the reign of Leo X.

<sup>143</sup> Zinkeisen, II, 600-601.

<sup>144</sup> Charrière, I, 63-64, note. The French, imperial, and Spanish replies to the crusading memorandum had all been received and considered at the Curia Romana by 25 February (1518) when "Sua Santità ne ha preso grandissimo piacere, inteso le volontà di questi principi essere calde et prompte a questa sancta impresa" ("Manoscritti Torrigiani," *Arch. stor. italiano*, XXI, 227).

<sup>142</sup> Charrière, I, 49-63. The imperial project for the crusade was sent by the pope with a covering letter to Francis I on 4 March, 1518 (*ibid.*, pp. 47-49). For a speech ascribed to the Emperor Maximilian on the

The papal project for the crusade and the French and German commentaries which it produced are quite revealing. Concerning the extreme anxiety of the Curia Romana that the advance of Islam be stopped, there can be no doubt. While the French king's rather casual memorandum deals with some of the major problems that required solution before any expedition could be launched with the slightest hope of success, the German document is too fatuous to take seriously as a plan for the crusade. It almost assumes that the Turks would stand idly by while Maximilian's tortuous scheme was worked out to dismember their empire over a three-year period. On one principle, however, there seemed to be agreement. Peace had to be assured in Europe before any crusade could get under way. The princes would never go off to a war against the Turks, leaving their lands and states exposed to the enterprise of hostile neighbors.

Leo X, therefore, issued a bull dated 6 March, 1518, declaring a five-years' truce (*quinquennales treugae et induciae*) among all Christian princes and powers, the infraction of which was to call forth excommunication and the interdict.<sup>145</sup> The bull was published with every solemnity in the presence of the pope and the cardinals in the basilica of S. Maria sopra Minerva on 14 March. One of the cardinals celebrated the mass of the Holy Spirit, and the pope's secretary, the humanist Jacopo Sadoletto, delivered an address which sketched the past successes of the Turks,

But since a general peace in Europe was necessary to organize the crusade and would be difficult and time-consuming to arrange, Leo hoped that a year's truce might first be managed and later conceivably become a general peace. The hope was also for a six-years' truce between Maximilian and the Venetians (*ibid.*, XXI, 227-228).

<sup>145</sup> Charrière, I, 63-68, "datum Rome, apud Sanctum Petrum, anno incarnationis dominice MDXVII, sexto die martii, pontif. nostri anno V," which falls in the year 1518. By letters from their ambassador in Rome dated 22, 23, and 25 February (1518), and delivered in Venice the evening of the twenty-eighth, the Senate knew of the pope's intention to publish on Laetare Sunday, which would fall on 14 March, "le treughe fra tutti li principi Christiani" (Arch. di Stato di Venezia, Sen. Secreta, Reg. 47, fol. 101<sup>r</sup>), which posed some problems for Venice, especially in her relations with the Emperor Maximilian and in connection with the pope's apparent intention to preach the crusade. Cf., *ibid.*, fols. 102<sup>r</sup>-103<sup>r</sup>, letter of the Senate to the Venetian ambassador in France, dated 1 March, 1518. On 10 March the bull had been approved in the consistory (Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6, fol. 211<sup>r</sup>).

the terrors attending their conquests, and the measures now to be taken against them. Sadoletto took especial notice of the Emperor Maximilian's grandiose plan of a three-year war against the Turks, and mentioned one by one the favorable responses of the princes to the pope's appeal—Francis I of France, Charles of Spain, Henry VIII of England, Manuel of Portugal, Louis of Hungary, Sigismund I of Poland, Christian II of Denmark, and the young James V of Scotland.<sup>146</sup> It was an occasion for oratory. On 21 March, 1518, the pope wrote the king of France of the ample promises the princes were making to support the projected expedition; consequently he hoped that they would ratify the five years' truce, and urged the immediate French ratification of the truce as an example to the rest of Europe.<sup>147</sup> The Venetians made no commitment at all to the proposed crusade, and the ambassador of the Republic in Rome was instructed to take no part in the discussions.<sup>148</sup> Venice would run no risks either for Europe or the Holy See.

<sup>146</sup> Sanudo, *Diarii*, XXV, 305, 322, who notes that Sadoletto's discourse was being printed, and cf. Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6, fols. 207<sup>r</sup>, 209<sup>r</sup>-210.

<sup>147</sup> Charrière, I, 68-70, letter of Leo X to Francis I, dated at Rome on 21 March, 1518, which also describes the ceremonies attending the promulgation of the bull *Considerantes ac animo* (of 6 March) on the fourteenth, proclaiming the five-years' truce. Cf. Zinkeisen, II, 601-602, who misdates the promulgation of the bull 13 March; Sanudo, *Diarii*, XXV, 270, 308-311, on the intercessory processions; and Rawdon Brown, ed., *Calendar of State Papers . . . , Venice*, II (London, 1867), no. 1016, pp. 436-437. Sadoletto's oration in S. Maria sopra Minerva, given on "XIX Kalend. Aprilis, MDXVIII," is printed in *Jacobi Sadoleti . . . opera quae extant omnia*, II (Verona, 1738, repr. by the Gregg Press, 1964), 257-264, and Wm. Roscoe, *Leo the Tenth*, III (Liverpool, 1805), append., pp. 109-114. Sadoletto had previously indited a long oration *contra Turcos* to Louis XII, dilating on the glories of French crusading history and the responsibility which Louis himself bore to the memory of his great predecessors (*Sadoleti . . . opera*, II, 287-331). On Sadoletto, see Richard M. Douglas, *Jacopo Sadoletto (1477-1547), Humanist and Reformer*, Cambridge, Mass., 1959, esp. pp. 14 ff., 246 ff. Cf. Pastor, VII, 232-234, and *Gesch. d. Päpste*, IV-1, 159-160. The ceremonies of 14 March and the promulgation of the bull imposing the five years' truce are also recounted in a letter to Stafilé dated on the sixteenth ("Manoscritti Torrigiani," *Arch. stor. italiano*, XXI [1875], 233).

<sup>148</sup> Sanudo, *Diarii*, XXV, 71, by action of the Council of Ten "fo scritto a Roma a l'orator nostro in materia di Turcho non vadi a li consulti di Papa, ma digi sempre questo stado a pugnà per la cristianità contra Turchi, nè mai mancherà, vedando li altri principi voler

In earlier years the popes had not been distressed to see Venetian resources spent on war with the Turk (or spent in fighting the league of Cambrai), and partly for the reasons which the Florentine ambassador, Ottone Nicolini, had explained to Pope Pius II a half-century before. Nicolini had regarded the wealth of Venice as just as great a threat to the independence of the Italian states as the sultan's ambition to conquer the peninsula. Pius's support of Venice at that time seemed to run counter to the old papal policy of diverting overly strong sovereigns and states to the war against the infidel. It was conceivable that a Venetian victory over the Turk would subject the papacy to the Republic (if indeed a Venetian victory had been conceivable), but to Pius as to many popes the crusade was both a religious ideal and a political necessity. The fact was that the Turk was dangerous. Undoubtedly Leo X wanted to see Francis I embarked on the crusade, for the victor of Marignano was too powerful a neighbor to have indefinitely in Genoa and Milan.<sup>149</sup> But the fact still remained that the Turk was dangerous, and becoming more so every year. For the papacy the crusade meant, to be sure, the diversion of Venetian, French, German or Spanish arms and money from the Italian scene to the Turkish Levant, but it also meant the protection of Christians in central Europe and throughout the Mediterranean. The Curia Romana saw in the crusade the combination of two most desirable objectives. But of course what was clear to the Curia was clear to the members of every chancery in Europe. None of

the major monarchs would venture into the East unless his fellows joined him; he would not leave his enemies behind to attack his lands in his absence; he would not spend his money on a crusade unless his rivals employed all their available resources in the same cause.

Despite the Sultan Selim's great commitments in the East, Croatia had been in renewed danger of falling to the Turks since 1514.<sup>150</sup> As King Louis II informed the Ragusei and others on 2 January, 1518, one could hardly be ignorant of the "calamities and perils" which the miserable realm of Croatia had been suffering, with no respite from Turkish attacks.<sup>151</sup> In the autumn (of 1518) the Ragusei informed Pope Leo X that Selim had now returned to Adrianople; his next move was conjectural, but he was recalling troops from Asia to Europe.<sup>152</sup> Ragusa was a clearing house of rumors, and the arrival of every merchantman brought new ones.

The Crusade was no papal conspiracy as the Germans liked to believe. Among informed persons there could be no doubt of the desperate need for firm opposition to the Turks. Fabrizio del Carretto, the grand master of the Hospitalers, had learned with consternation of the Sultan Selim's victory over the Persians,<sup>153</sup> and the de-

<sup>150</sup> Gelcich and Thallóczy, *Diplomatarium Ragusanum*, no. 426, p. 675.

<sup>151</sup> *Ibid.*, no. 434, p. 680. Louis was trying to collect 3,000 florins in *sortem censu* from the Ragusei, of which they paid 2,000 although they could not afford it—it was, they said, like snatching bread from their mouths (*ibid.*, no. 436, p. 681, and *cf.* p. 841).

<sup>152</sup> *Ibid.*, no. 437, p. 682.

<sup>153</sup> Raynaldus, *Ann. eccl.*, ad ann. 1514, nos. 46-48, vol. XXXI (1877), 71-72. In a letter of 6 February, 1514, congratulating his old friend del Carretto upon election as grand master of the Hospital at Rhodes in succession to the late Guy de Blanchefort (d. 24 November, 1513), Leo X promised every possible defense of Rhodes against the *Turcarum cupiditas bellicae ap-* 155, and Bembo, *Epp.*, XIII, 12, and XIV, 9, in *Opere*, IV, 53). From his vantage point in the eastern Mediterranean del Carretto watched every Turkish move like a hawk, and immediately reported to the Curia Romana all important facts and rumors (*cf.* Raynaldus, ad ann. 1516, no. 55, pp. 128-129, and ad ann. 1517, no. 19, p. 155, and Bembo, *Epp.*, XIII, 12, and XIV, 9, in *Opere*, IV, 112, 119, letters written in the pope's name to del Carretto and dated at Rome on 22 August, 1516, and 31 January, 1517, and see Sanudo, *Diarii*, XXIV, 215: 216-217: 437 ff., a letter dated at Rhodes on 29 May, 1517; vol. XXV, 72, 94-95; vol. XXVI, 158).

But Peter Schiner, a Hospitaller on Rhodes and petulant nephew of the Swiss Cardinal Matthias Schiner, thought there was little danger threatening from the

far con effetti e non con parole, perché si principiassero, noi saremo i primi." Venice in fact had confirmed her *bona amicitia e pace* of 1513 with the Sultan Selim in September, 1517 (*ibid.*, col. 416). The agreement had been negotiated by Bartolommeo Contarini and Alvise Mocenigo. The Turkish text is extant with the note on the reverse, "Oratoribus nobilibus viris Bartholomeo Contarino et Aloisio Mocenigo in lingua turca," in the Archivio di Stato di Venezia, Documenti turchi, Busta I, with a contemporary Italian translation. The Turkish document is dated, without indication of the day, Sha'ban 923, which extends from 19 August to 17 September, 1517 (*cf.*, *ibid.*, Docc. turchi, Busta 20, "Regesti Bombaci"). An addendum to the "capitulations" of 1513, however, provided that the annual tribute of 8,000 ducats which the Republic had formerly paid the sultan should henceforth, with the Ottoman conquest of Egypt, be paid to the Porte (see below).

<sup>149</sup> J. Ursu, *La Politique orientale de François I (1515-1547)*, Paris, 1908, pp. 7-8.

struction of Mamlūk power in Egypt was an absolute catastrophe for his Order. Del Carretto's concern for the safety of Rhodes increased from month to month. On 30 May and 1 June, 1518, he wrote Leo X from the island fortress that the arsenals in Istanbul were turning out new galleys and other ships constantly, and no day passed but the Turks were increasing their preparation for naval warfare. The grand master had no doubt, when Selim I had concluded his eastern campaigns, that the Knights, "whom your Holiness calls Christendom's first line of defense" (*quos Sanctitas vestra antemurale Christiane reipublice appellat*), were not going to be able to defend Rhodes against the coming Turkish attack. The long-awaited expedition of the Christian powers against the hordes of the Gran Turco would be necessary to save the Christian outpost of Rhodes. The Knights were poor and powerless; they grew weaker as the Turks grew stronger. The grand master's letters have a note, almost, of resignation to fate.<sup>154</sup> They contain a premonition of things to come.

Turks in February, 1517, when he wanted to return home and del Carretto declined to grant him permission to do so because (del Carretto said) a Turkish attack was feared (see Schiner's interesting letter to the cardinal, dated at Rhodes on 12 February, 1517, in Büchi, *Korrespondenzen* . . . d. Kard. Matth. Schiner, II [1925], no. 604, pp. 180-181). Leo X was trying to enlist Swiss mercenaries for service against the Turks, and was annoyed at the Cardinal Schiner's unrelenting hostility to France, which was a divisive force working against Leo's effort to achieve *pax et unio* in Europe (*ibid.*, nos. 645-646, 650, 670, pp. 260-262, 266-267, 285).

<sup>154</sup> Arch. Segr. Vaticano, Lettere di Principi, vol. II, fols. 54-55, by modern stamped enumeration, "datum Rhodi die XXX Maii, 1518," and ". . . die prima Iunii, 1518": "Quia ante oculos habemus imminens periculum instantis ruine quam nobis potentissimus infidelis minatur et vires nostre sunt tenues ut tante moli resistere possint et quotidie uidique magis debilemur a quibus incrementum suscipere deberemus: non cessamus nostras calamitates vestre beatitudini recensere et paupertatem in qua sumus constituti declarare cum quotidie nostris proventibus frustremur quo fit ut quodammodo soli remaneamus . . ." (fol. 55, from the letter of 1 June, 1518). Both these letters are the originals, and are signed "Humillimus servulus et creatura, Magister Rhodi, f. fabricius," the signature being the grand master's own. A third letter, with the same signature (*ibid.*, fol. 56), reports: "Turcus non longe ab Aleppo distat et omnino decrevit eventum belli tentare cum Soffi quem non multi facit; tamen quotidianum innuere militum manus ad eum tendunt et preterito tempore nunquam tam potentem exercitum comparavit, quod signum est sophiane vires non sunt parvi pendende, tametsi Turcus aliter ostendat. In his provinciis nobis circumvicinis vulgatum est Sanc-

To secure ratification of the five years' truce, to help plan the countless details of the crusade, and to represent him at the principal centers of European power, Leo X proposed to send out as *legati de latere* four of the most prominent members of the Sacred College.<sup>155</sup> At first the Cardinal Alessandro Farnese (later Pope Paul III) was appointed as legate to the imperial court; because of illness, however, he could not undertake the mission; and so Tommaso Gaetano da Vio, better known as Cajetan, recently created cardinal of the title of S. Sisto, was appointed in his place. When he departed for Germany, Tommaso received the special blessing of the pope, and was accompanied by the cardinals as far as the house of the archbishop of Nicosia, almost to S. Maria del Popolo.<sup>156</sup> Bernardo Doviz-

titatem vestram expeditionem parasse et classem innumeram Brubusii [Brindusii] coegisse ut Avlonam aut Dyrachium transfretet, de quo maximum timorem conceperunt [Turci] arbitantes hoc verum esse. Nos rogationes triduo et biduo ieiunia celebravimus, Deum rogantes ut animorum unitatem Christianorum principum conservet et Sanctitatem vestram in tam laudando proposito confirmet . . ." (dated 7 June, 1518). Cf. Sanudo, *Diarii*, XXV, 428-429, 462, 464, 473-490, 497, etc., relating to the Turco-Persian strife to which del Carretto alludes.

<sup>155</sup> A letter written in the name of the Cardinal de' Medici to Altolleto Averoldo, bishop of Pola and apostolic nuncio to Venice, fixes the first appointment of the legates to the morning of 3 March, 1518 ("Manoscritti Torrigiani," *Arch. stor. italiano*, XXI [1875], 228-229), which is also the date given in Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fol. 83v, and Acta Miscellanea, Reg. 6, fol. 210. Cf. Sanudo, *Diarii*, XXV, 288, 294, 310, 311, 321, 337, 348. In a rather unusual gesture Leo X undertook to pay the expenses of the four legates (cf. Pastor, *Hist. Popes*, VII, 231-232, and *Gesch. d. Päpste*, IV-1 [repr. 1956], 158-159). On the bishop of Pola, cf. Guicciardini, *Storia d'Italia*, XIII, 8, ed. Florence, Salani, 1963, III, 274, and Pastor, VII, 221-222, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 152. Paride Grassi, *Diarium*, ad ann. 1518, dates the creation of the four legates on Wednesday, 4 March (ed. Chr. G. Hoffmann, *Nota scriptorum ac monumentorum . . . collectio*, Leipzig, 1731, pp. 402-404), speaks disparagingly of the Cardinal Thomas Bakócz, and affirms that papal legates ranked above kings (*quia semper Legati debent esse supra Reges quoscunque*).

<sup>156</sup> Arch. Segr. Vaticano, Arm. XLIV, tom. 5, fols. 229v-230r, letter dated at Rome on 4 May, 1518, addressed "Imperatorii circa legatum." Cf. *ibid.*, fols. 268-269, and Paride Grassi, *Diarium*, ad ann. 1518, ed. Hoffmann, *op. cit.*, p. 411, who dates Tommaso da Vio's departure on Wednesday, 5 May. According to Paride Grassi, p. 408, Leo appointed Tommaso on 13 April, but the date is given as 20 April in C. Eubel et al., *Hierarchia catholica medi et recentioris aevi*, III (1923),

cardinal of Bibbiena, was appointed legate to France. A humanist, Bibbiena was an old friend of the pope:<sup>157</sup> he was also commonly regarded as quite anti-French. The Bolognese Cardinal Lorenzo Campeggio was sent to England where Wolsey was later appointed his associate in the legatine mission "with equal authority, faculty, and power," according to a special bull of 1 June, 1518. The Cardinal Egidio da Viterbo was sent to Spain. There can be no doubt that the prospect of a great expedition against the Turks was causing some excitement in Europe. The Sultan Selim had left Egypt late in the year 1517, spent more than six months in Syria, and thereafter returned to Istanbul where he arrived in late June, 1518.<sup>158</sup> Venetian envoys waited on him in Cairo and afterwards in Istanbul. The treaty obtaining between Venice and the Porte since the conclusion of the last war between them (1502–

1503)<sup>159</sup> had been renewed in September, 1517, whereby the Venetians agreed to pay the sultan the annual tribute of 8,000 ducats which they had formerly paid the Mamlûks for possession of Cyprus.<sup>160</sup>

As ecclesiastics in the Curia constantly discussed the crusade, they easily infected one another with the fear that the Turk might make his first move against the Christian front in the spring of 1518.<sup>161</sup> Forces were to be recruited from everywhere possible and toward the end of December, 1517, Pucci was directed to make clear to the Swiss that the crusade was not to be looked upon as an affair of the pope and the other princes, "ma come impresa universale di tutta la Cristianità."<sup>162</sup> In this context we may again remark that the pope's leadership in the crusade cast him conspicuously in a role of universal authority while his activities as an Italian dynast were seriously compromising his position as the spiritual father of Christendom.

p. 16b and note 7; the day of the month is left blank in Raynaldus, *Ann. eccl.*, ad ann. 1518, no. 52, vol. XXXI (1877), 196. Tommaso returned from Germany on 5 September, 1519. As late as 27 March (1518) Farnese was still expected to leave for Germany on the twenty-ninth ("Manoscritti Torrigiani," *Arch. stor. italiano*, XXI [1875], 234); Paride Grassi, ed. Hoffmann, pp. 407–408, says that Leo X believed Farnese's illness was feigned. According to the report of the Venetian ambassador to the Holy See in Sanudo, *Diarii*, XXV, 351, Bibbiena left Rome on 13 April, Campeggio on the fifteenth, and Egidio Canisio on the sixteenth. The departure of the legates had been expected from day to day (Guasti, "Manoscritti Torrigiani," *Archivio storico italiano*, 3rd ser., XXIII [1876], 7, and cf. p. 12). Cf. Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fols. 84v, 85r, and Acta Miscellanea, Reg. 6, fols. 217, 221.

<sup>157</sup> Note Leo X's letter to the French chancellor Antoine Duprat, in Charrière, I, 71, dated at Rome on 7 April, 1518, and cf. B. Knös, *Janus Lascaris* (1945), pp. 162–163. Sanudo, *Diarii*, XXVI, 302–303, preserves a most interesting report from Paris dated 9 December, 1518, concerning Bibbiena's approach to Francis I: "... e il Re volse esso Legato parlasse in latin vulgar per poterli far riposta lui, et non parlando latin conveniria far far ad altri, e voleva tutti fosseno testimoni di quello si offerirà di far, acciò, non lo facendo, fusse tenuto mancador di fede. Et cussi il Legato fece una bellissima oratione vulgar, dicendoli il pericolo di la christiana religione per Turchi, exortando Sua Maestà, a tuor le arme in mano come primogenito di Santa Chiesia et re Christianissimo. . . ." Bibbiena then emphasized that Francis possessed all the qualities of a successful crusader—military experience, greatness of spirit, good health, youth, and the requisite economic resources and power.

<sup>158</sup> The sultan's return to Istanbul was known in Rome by mid-August (Guasti, "Manoscritti Torrigiani," *Archivio storico italiano*, 3rd ser., XXIII [1876], 409).

<sup>159</sup> Predelli, *Regesti dei Commemorati*, VI, lib. xix, no. 12, pp. 65–66, dated 14 December, 1502, and 20 May, 1503, and cf. nos. 9–11, 16; this treaty had been more recently renewed in May 1513 (*ibid.*, VI, lib. xx, nos. 9, 12, pp. 130–132).

<sup>160</sup> Predelli, *Regesti*, VI, lib. xx, no. 64, pp. 143–144, dated at Cairo 8 September, 1517, and cf. nos. 65, 67, and Sanudo, *Diarii*, XXV, 416, and vol. XXVIII, 69. On 5 November, 1517, the Venetian Senate informed the bailie of the Republic in Istanbul that the Cypriot tribute would henceforth be sent to the Porte, and on the tenth wrote Selim assurance to the same effect (Arch. di Stato di Venezia, Sen. Secreta, Reg. 47, fols. 86<sup>v</sup>, 87). The tribute to the Mamlûk sultan of Egypt had been paid in precious wares such as clothes, cloth, harness for horses, perfumes, porcelains, and theriac; when the sultan found the tribute inadequate or insufficient, the poor envoy who brought it was likely to suffer (cf. Predelli, *Regesti*, VI, lib. xix, no. 13, p. 66, and cf. nos. 14, 21). In June, 1518, Leo X, seeking every possible ally against the Turk, sent the Dominican Nicholas of Schönberg as papal envoy to the princes of Moscow and of the Tatars (Arch. Segr. Vaticano, Reg. Vat. 1194, fols. 135–136, by modern stamped enumeration, and also in Arm. XLIV, tom. 5, fols. 231<sup>v</sup>–231<sup>r</sup>). On 30 September, 1518, the Cardinal de' Medici sent Nicholas twenty-five briefs relating to his mission for the kings of Hungary and Poland and others (Guasti, ed., "Manoscritti Torrigiani," *Archivio storico italiano*, 3rd ser., XXIV [1876], 17). Nicholas of Schönberg (Schomberg) became archbishop of Capua in 1520 and a cardinal in 1535 (C. Eubel *et al.*, *Hierarchia catholica*, III [1923], 23, 151). He died in September, 1537.

<sup>161</sup> "Manoscritti Torrigiani," *Arch. stor. italiano*, XXI, 203.

<sup>162</sup> *Ibid.*, XXI, 204.





sea. . . ."<sup>168</sup> The pope was trying to bring about "some sort of [European] confederation . . . to last for five years." Negotiations through the spring and summer of 1518 did finally produce a five years' truce, to run from 1 September, among Francis I, Maximilian, and the doge of Venice.<sup>169</sup> Public opinion helped push the rulers

<sup>168</sup> Charrière, I, 73-74, who misdates the letter "MDXVII, XIII Kal. Sept." Charrière took his text from Thos. Rymer,  *Foedera*, XIII, 621; 3rd ed., ed. George Holmes, VI (The Hague, 1741), 146-147, where it is correctly dated. I found the archival text of this letter in Arch. Segr. Vaticano, Reg. Vat. 1203, fols. 131v-133r, and also fols. 139r-140v, by original enumeration, "datum Rome apud Sanctum Petrum, anno, etc., millesimo quingentesimo decimo octavo, tertio decimo Kal. Septembris, pontificatus nostri anno sexto," and cf., *ibid.*, fols. 130r-131r, also to Wolsey and Campeggio on 18 August, 1518. Leo's letters, as we have noted, often allude to the unnatural violence of the "Turcarum tyrannus" and express fear of the terrible conqueror of Egypt (*ibid.*, fols. 164v, 179r, 180r, *et alibi*). Travelers from the Levant brought alarming tales of the size of the Turkish fleet and the unhappy assurance that Italy was the sultan's objective (Sanudo, *Diarii*, XXV, 335). Inevitably rumors of the projected crusade reached Istanbul (*ibid.*, XXVI, 18, 22, 159), but the sultan found them amusing, *et se ne rideat* (*ibid.*, col. 95).

<sup>169</sup> Sanudo, *Diarii*, XXV, 673-679, and vol. XXVI, 59; Predelli, *Regesti dei Commemorati*, VI, lib. XX, no. 84, pp. 148-149, and cf. nos. 79, 85-87. Maximilian's authorization to his envoys to conclude the truce with Venice (dated 12 April, 1518) contains the observation that the enmity of Christian princes had been forever extending the power of the Turks. Cf. Leo X's brief of 21 March, 1518, to Francis I in Arch. Segr. Vaticano, Arm. XL, tom. 3, no. 414, fol. 301. While Leo X was glad that Maximilian had accepted the five-years' truce with Venice, the members of the Curia Romana put little trust in the imperial word (Guasti, ed. "Manoscritti Torrigiani," *Archivio storico italiano*, 3rd ser., XXIV (1876), 6).

In a letter dated at London on 13 April, 1517, the Venetian ambassador Sebastiano Giustinian wrote his government that Henry VIII had said to him, "My lord ambassador, you are sage, and of your prudence may comprehend that no general expedition against the Turks will ever be effected so long as such treachery prevails amongst the Christian powers, that their sole thought is to destroy one another . . ." (Rawdon Brown, ed., *Four Years at the Court of Henry VIII*, 2 vols., London, 1854, II, 57). Intercessory processions were held and the crusade was published in Hungary, where the nobility was at odds and feared the consequences of the announcement since the government wanted to make peace with the Porte (Sanudo, *Diarii*, XXVI, 43, and "MSS. Torrigiani," XXIV, 7). There was a Turkish irruption into Hungary in August, 1518 (Sanudo, *ibid.*, cols. 45-48), and in March, 1519, three envoys of the king of Hungary, on a mission to Venice and the Curia Romana, informed the Venetian Senate "che vedendo quella Maestà

in Europe toward peace, but the desire to deny Leo X the position of general arbiter which he had claimed for himself was also quite strong, and this secular tendency was in no way diminished as Cardinal Wolsey exerted his influence upon the negotiations which went on to secure a general peace. The Venetian ambassador in London said of Wolsey's sovereign, Henry VIII, that he was no more interested in the Turkish danger than if it threatened the Indies.<sup>170</sup>

In October, 1518, the treaty of London was initiated by the representatives of Henry VIII and Francis I, who undertook to secure its further ratification by the pope and the heads of the European states within four months. The agreement established a defensive league against any state which should attack one of the signatories and provided detailed procedures for dealing with the signatories' own infractions of its terms. Although the new league was said to have been formed to protect papal authority and to oppose the Turkish peril, the treaty deals only very generally and superficially with the problem of mak-

[Louis II of Hungary] el regno suo quotidie deteriorar per le incursion et danni facciano Turchi, iquali havevano diminuto quel regno de forze et homeni, erano astretti ricrear el summo Pontefice come universal capo de Christiani per unir li principi ad pace azio li possino dar qualche suffragio, perché quella Maestà per se sola non è sufficiente ad prevalerse da tanta potentia, ma convenir cieder . . ." (Arch. di Stato di Venezia, Sen. Secreta, Reg. 48, fol. 6').

<sup>170</sup> Sanudo, *Diarii*, XXVI, 237, and cf. Pastor, VII, 243, note, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 166, note. Sanudo, *loc. cit.*, says, "Soa Maestà [Henry VIII] non monstrò far molto conto [of the Turks in Hungary], come se li avesse ditto nove de India." The quotation appears in a letter of 9 November, 1518, from Sebastiano Giustinian in London to the Venetian government (see Rawdon Brown, *Four Years at the Court of Henry VIII*, II, 238, and *Calendar of State Papers . . . , Venice*, II [London, 1867], no. 1102, p. 473). Wolsey had of course been trying for some time to organize a European league, with the English and French kings as the first partners, and although "di questa [nova lega] offerisce fare capo Sua Santità," his intentions were obviously otherwise (cf. Guasti, "Manoscritti Torrigiani," *Archivio storico italiano*, 3rd ser., XXIII [1876], 405 ff.). Sebastiano Giustinian was replaced as Venetian ambassador to England by Antonio Surian on 2 April, 1519 (Arch. di Stato di Venezia, Sen. Secreta, Reg. 47, fols. 162'-163'). His appointment had begun on 4 January, 1515 [*more veneto* 1514] (*ibid.*, Reg. 46, fol. 84'); he returned to Venice in May 1520 (*ibid.*, Reg. 48, fol. 119').

ing war on the Porte.<sup>171</sup> Leo X's efforts to make himself the final adjudicator of international disputes were disregarded. Papal prestige had been dealt a considerable blow. What is more, as far as the crusade was concerned, Leo saw clearly that the treaty of London, which was allegedly designed to assure the peace of Europe in perpetuity, would very likely prove of shorter duration than the five years' truce which he had envisaged as a period of offensive action against the Turks.<sup>172</sup>

<sup>171</sup> The treaty of London and related documents are given, from a papal bull dated 31 December, 1518 (see note below), in Thos. Rymer, *Foedera*, ed. George Holmes, VI (The Hague, 1741), 169-174, and cf. Charrière, I, 75, note; Sanudo, *Diarii*, XXVIII, 16, 465 ff.; a summary of the treaty, dated 2 October, is given by Predelli from the Venetian copy in the *Commemoriali* (*Regesti*, VI, lib. xx, no. 89, pp. 150-151, and cf. nos. 99-101). The letters of the Venetian ambassador in London, Sebastiano Giustinian, dated 1, 5, and 10 October, 1518, giving such details of the treaty as he could learn, are summarized in Sanudo, *Diarii*, XXVI, 156-157, 170-172, and translated by Rawdon Brown, *Four Years at the Court of Henry VIII*, 2 vols., London, 1854, II, 223-232. The young Charles of Spain presented a difficulty at first to the new Anglo-French allies since he did not wish to allow the restoration of the d'Albret family to the throne of Navarre (Sanudo, *Diarii*, XXVI, 94, 380, and vol. XXVII, 90-91, 198).

We should perhaps note that after the French victory at Marignano in September, 1515, the Swiss confederation had ceased to be an important political or military power. Although by the *paix perpétuelle* of 29 November, 1516, the Swiss became dependent allies of Francis I, who granted them economic and other concessions (Dumont, *Corps universel diplomatique*, IV-1 [Amsterdam, 1726], 248-251), they were anxious to maintain neutrality in the struggle of Valois and Hapsburg. The French king might, however, recruit limited numbers of Swiss for the defense of his own territories.

<sup>172</sup> See the letter of 20 August, 1518, written in the name of the Cardinal de' Medici to Campeggio, in Guasti, ed., "Manoscritti Torrigiani," *Archivio storico italiano*, 3rd series, XXIII (1876), 413-414: "... Quanto al mandato per la lega universale, come vedrete, si estende ad farla *solum* per cinque anni; non perchè Nostro Signore [Leo X] non la desiderassi perpetua, ma perchè la sia più ferma et si osservi più facilmente. Imperocchè le confederazioni che hanno un termine prefinito, pare che li Principi durante dicto tempo si guardino più dal violarle, et più facilmente ancora si correggono al fine di dicto termine; et così quando si intende che una cosa ha ad essere perpetua, la quale non piace hora ad uno, hora ad un altro, secondo li appetiti de' Principi, pensando di averla ad interrompere col tempo ad ogni modo, tengono meno conto de la fede, et non manca le ghavillazioni et excuse ad uscire de le conventioni. . . ." Cf., *ibid.*, XXIV (1876), 6, 13-14; Pastor, VII, 239-243, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 164-167; Dorothy

Wolsey had made no effort to conceal his intention of frustrating Leo X's effort to assume political leadership in Europe. The facts had been reported by Campeggio, to whom the Cardinal de' Medici wrote on 6 October, 1518:

The words which the Cardinal of York [Wolsey] used in expressing his unwillingness to ratify the five years' truce, i.e., 'that they were not ready to concede so much to the pope as that he should publish a truce,' etc., have caused our lord [the pope] extreme displeasure. If such words were not fitting for any Christian to use, much less should a cardinal either use or think them, and especially York of his Holiness, from whom he has received such great honors and favors. From this one can understand what the Holy See and the pope can confide in him or expect of him! These proposals have not been unusual, as he says, because many other popes have declared truces. . . .<sup>173</sup>

Whatever the disappointment felt in Rome at this eclipse of papal influence over the affairs of the Christian commonwealth, the Curia could

Vaughan, *Europe and the Turk*, Liverpool, 1954, p. 106. In April, 1518, Francis I was said to be quite willing to accept the pope's five-years' truce, and indeed wanted to be the first to ratify it ("MSS. Torrigiani," XXIII [1876], 8), but the pope found him inconsistent and hard to deal with (*ibid.*, XXIV, 210 ff.). On 8 October, 1517, the Franco-Venetian alliance of March, 1513 (Predelli, *Regesti*, VI, lib. xx, no. 7, p. 130, the treaty of Blois, and cf. nos. 23, 30), had been renewed, with the continued exclusion of the pope from its provisions (*ibid.*, lib. XX, no. 70, p. 146) although of course Leo X was later included (*ibid.*, lib. XX, nos. 122, 145). Various documents relating to the peace of 1518 may be found in the Archivio di Stato di Venezia, Sen. Secreta. Reg. 47 (1516-1518).

<sup>173</sup> "Manoscritti Torrigiani," *Arch. stor. italiano*, 3rd ser., XXIV (1876), 21. The fact that the proposed five years' truce had been so widely discussed in Europe (Sanudo, *Diarii*, XXVI, 6, 103, 105-106, 116, 212, 250 ff.) added to the pope's humiliation, but of course the Curia Romana had known what was in the offing ("Manoscritti Torrigiani," *Archivio storico italiano*, 3rd ser., XXIV [1876], 5 ff., 13-14). The expectation of disappointment, however, does not always lessen its effect.

Campeggio returned to Rome from the English legation in late November, 1519 (Paride Grassi, *Diarium*, ed. Chr. G. Hoffmann, *Nova scriptorum . . . collectio*, Leipzig, 1731, pp. 433-434). His colleague Bibbiena returned from the French legation just before Christmas 1519, and was readmitted to the consistory on Monday, 9 January, 1520 (*ibid.*, p. 441). Bibbiena died on Friday, 9 November, 1520, of a mysterious illness: an autopsy, performed on the tenth, showed that "viscera eius inventa sunt livida, quasi ex veneno corrupta" (*ibid.*, p. 456). Cf. Sanudo, *Diarii*, XXIX, 401. During his French legation Bibbiena gave up his anti-French sentiments, and became a strong supporter of Francis I.

only welcome such a treaty among the powers. Kings as well as popes were the anointed of God. In his bull of 6 March (1518) declaring the five years' truce in Europe, Leo X had informed the kings and princes of Europe that by its acceptance they must find favor "in conspectu Altissimi, qui eos ex nichilo creavit et [de] cuius causa et de cuius honore agitur."<sup>174</sup> Now they appeared to be making such a peace. The preamble to Leo's bull *Gaude et letare Iherusalem* of 31 December (1518), by which he ratified the treaty of London, was jubilant in tone: "Be glad and rejoice, O Jerusalem, since now your deliverance can be hoped for. . . . The kings are assembling . . . to serve the Lord against the fierce madness of the Turks and against the uncleanness of Islam."<sup>175</sup>

The papacy remained of course very much in the picture. In theory the crusade was a religious war, and the crusading title which only the pope could impose was an important source of revenue. Certainly the towering height to which Selim I had climbed, made him so formidable a figure that the German empire, the Italian states, and Spain had to take full stock of his position. On 14 January, 1519, the young King Charles I of Spain ratified the treaty at Saragossa, but his grandfather Maximilian was already dead (11 January), and for several months the courts of Europe were divided and kept almost on ten-

terhooks by the question of the imperial succession.<sup>176</sup> Charles had a rival for the throne of the Caesars in the person of the French king, who was represented by his supporters as Germany's best safeguard against the sultan's great ambition and his certain aggression.

The costs of the crusade gave the kings and privy councils a constant headache, and the Curia Romana increased its general unpopularity, especially in Spain and Germany, by the imposition of tithes. The news from France had been rather reassuring, as when on 6 December, 1518, the Cardinal Bibbiena had reported Francis I's open pledge to take the cross, promising 3,000 men-at-arms and (allegedly) 40,000 infantry. His majesty wanted processions and solemn masses "per la vittoria contra i infideli." The king said, moreover, that a slight increase in the ordinary imposts and regular tithes, together with the crusading levy, would suffice to maintain the French army for three years. But the costs would

<sup>174</sup> Charrière, I, 67.  
<sup>175</sup> Arch. Segr. Vaticano, Reg. Vat. 1203, fols. 188v-199v, by original enumeration, "datum Rome apud Sanctum Petrum, anno incarnationis dominice millesimo quingentesimo decimo octavo, pridie Kal. Ianuarii, [pontificatus nostri] anno sexto" (31 December, 1518). This copy of the bull is addressed to Francis I; it dates the treaty of London on 1 October, 1518 (fol. 197r), and includes the text of the treaty and accompanying instruments. Cf. Charrière, I, 74-75, note. The copy of the bull addressed to Henry VIII is given in Rymer, VI, 170 ff. On the bull of ratification, see the Cardinal de' Medici's letter to Campeggio of 3 January, 1519 ("Manoscritti Torrigiani," *Arch. stor. italiano*, 3rd ser., XXV [1877], 6 ff.). During the year 1518 Leo X made the crusade almost his major preoccupation, sending his assurances to the Grand Master del Carretto in Rhodes on 16 July, 1518, and appealing to various princes to support the expected expedition against the Turks (Arch. Segr. Vaticano, Arm. XLIV, tom. 5, fols. 233ff.). Francesco Nitti, *Leone X e la sua politica*, Florence, 1892, p. 104, has no doubt of Leo X's sincerity in seeking the five-years' peace in Europe "per muovere una cruciata contro i Turchi."

<sup>176</sup> Charrière, I, 75-76. Charles had already formally signified his agreement to the five years' truce in a letter to the pope dated at Saragossa on 11 August, 1518, the original of which signed with his characteristic scrawl "Carolus" may be found in the Arch. Segr. Vaticano, Lettere di Principi, vol. II, fols. 62'-63'. The death of Maximilian (on 11 January, 1519) was known in Rome on the twenty-third, according to Paride Grassi, *Diarium*, ad ann. 1519, ed. Chr. G. Hoffmann, *Nova scriptoria ac monumentorum . . . collectio*, Leipzig, 1731, pp. 423 ff.: Leo X asked his master of ceremonies "quis modus servandus esset in exequiali memoria eius ad Deum," on which see also Leo's address to the consistory on 24 January, 1519, in Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6, fols. 253'-254'. Paride looked up the matter with all the ceremoniere's pleasure in detail. Cf. "Manoscritti Torrigiani," *Arch. stor. italiano*, 3rd ser., XXV (1877), 18, and Sanudo, *Diarii*, XXVI, 434. Even before Maximilian's death rumors had been flying back and forth concerning the election of his successor (Sanudo, XXVI, 7, 37, 51, 94). A Hungarian embassy in Venice (on its way to Rome with a desperate appeal to Leo X for aid against the Turks before it was too late) told the Venetian Senate in March, 1519, that Maximilian's death had diverted the attention of the European princes from the noble necessity of the crusade, "et che se dovevamo de la morte de l'imperator perché vedevano quella esser causa de divertir li pensieri de li principi da questa laudabil et salutar operatione . . ." (Arch. di Stato di Venezia, Sen. Secreta, Reg. 48, fol. 6'). The Hungarian envoys also told the Senate confidentially that their king, Louis II, aspired to the imperial dignity with which, in his closeness to the Turks, he could better defend his kingdom "et cum maior force pugnari per la religion Christiana."

in any event be very large.<sup>177</sup> In Castile, Leo X had granted King Charles a tenth of the income of all ecclesiastical benefices to encourage his zeal for the Turkish war, but an assembly of the clergy refused to collect any such levy, asserting its illegality short of an actual invasion of a Christian state by the Turks. Castile was put under the interdict. But Charles had many problems in the Spanish kingdoms; the interdict had little effect upon the Castilian clergy; and so the king requested the pope to remove it.<sup>178</sup>

The German imperial council had obligingly exempted the friars from helping to pay the costs of the crusade, because they had no regular sources of income (*exceptis mendicantium ordinibus, qui nullo habent redditu aut proventus*).<sup>179</sup> but the Franciscans themselves revived an old plan in 1518 for raising and maintaining an army from the combined resources of the cloisters. Although

reference is sometimes made in this context to the "tract of 1518," both the text and plan of the project appear to go back at least to 1474.<sup>180</sup> After 1518, however, the idea was quickly taken up by the pamphleteers, and was expounded a number of times in later decades. According to the author of the tract of 1518 (or rather 1474), if the Franciscans contributed one young man to the army from each of their convents, 36,000 soldiers would stand ready for service. The Dominicans, Augustinians, and Carmelites could furnish 36,000 more, and the other orders 36,000, while the same number (another 36,000!) could be raised from the financial resources of the nunneries. Thus an army of about 140,000 men could be recruited for the war against the Turks; a much larger number could in fact easily be raised if the parish churches in Franciscan hands

<sup>177</sup> Charrière, I, 74, note. In a letter to the pope dated at Paris on 11 February, 1518 (1519 by our reckoning), Francis promised to come to the aid of the Holy Sea, in the event of a Turkish invasion, with 3,000 cavalry and 40,000 infantry; if a general offensive was organized against the Turks, however, and other nations did their share, he would provide 4,000 cavalry and 50,000 infantry (*ibid.*, I, 81-82). See also Sanudo, *Diarii*, XXVI, 312. It was of course easy enough to promise 40,000 or 50,000 infantry, but according to the Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fol. 92r, Francis actually promised 4,000: "Die lune 20 Decembris 1518 Rome fuit consistorium: Reverendissimus Cornelius legit litteras reverendissimi domini Cardinalis S. Marie in Porticu [Bibbiena] apud Christianissimum Regem legati quibus continebatur quod Rex Christianissimus promittebat pro defensione Italie a Turcis personaliter venire cum tribus millibus levis armature equitibus, quatuor millibus peditum, et tormentis opportunis pro generali expeditione in Turcas." Nevertheless, the minutes of the consistory of 20 December, as given in Acta Miscellanea, Reg. 6, fol. 251r, state that "rex Christianissimus promittebat pro defensione Italie a Turcis personaliter venire cum tribus millibus levis armature, sex millibus levis armature equitibus, XL m. peditum, et tormentis opportunis vel pro generali expeditione in Turcas."

By one of several versions of the bull *Dudum universos Christi fideles*, the pope granted absolution on 1 September, 1518 (*Kal. Sept., anno sexto*), to Francis and the officials of his treasury who had incurred ecclesiastical penalties by collecting more money for the crusade than an authorized 200,000 ducats (Arch. Segr. Vaticano, Reg. Vat. 1203, fol. 135r): the document says they had "probably" exceeded the authorized sum. On the same date Francis was granted another crusading tithe for a year (*ibid.*, fols. 136r-137r, and cf. fols. 137r-138r, 160r-164r, 177r-180r, 187r-188r).

<sup>178</sup> Charrière, I, 76, note.

<sup>179</sup> Charrière, I, 53.

<sup>180</sup> See N. Iorga, *Notes et extraits pour servir à l'histoire des croisades*, V (Bucharest, 1915), no. LXXVI, pp. 58-62, listed as from the *Türken-Hilff de anno 1446 bis 1518*, in the old Royal Library, now the Bayerische Staatsbibliothek, Munich, MS. lat. et germ. 14,668, fols. 110-113v: "Dise vorgeschribne Ordnung ist gemacht worden auff den Heyligen Cristabent, anno Domini, etc., 1480." Although Iorga cites only this manuscript, it is clear that he derived his text from a source with numerous readings at variance with those of the Munich MS. 14,668, of which I have a microfilm before me, and which contains no indication of the date 1480. Hans Pfeffermann, *Die Zusammenarbeit der Renaissancepäpste mit den Türken*, Winterthur, 1946, pp. 63, 248, note 37, erroneously believes that Iorga has dated the document more than forty years too early. As the Abbé Louis Dedouvres, *Le Père Joseph de Paris, Capucin: L'Éminence grise*, 2 vols., Paris and Angers, 1932, I, 356, has observed, "Les projets de croisade ont toujours charmé les fils de saint François d'Assise," for reasons to be found in S. Francis' own career.

Actually the Franciscan tract, which usually has the heading *Das ist ein anschlag cyns zugs wider die Türckenn*, was printed as early as 1474, for which see Károly Mária Kertbeny [a pseudonym for K. M. Benkert], *Bibliografie der ungarischen nationalen und internationalen Literatur*, 1: *Ungarn betreffende deutsche Erstlings-Drucke (1454-1600)*, Budapest, 1880, nos. 12-13. Despite Kertbeny's doubt it was reprinted in 1479 (*Erstlings-Drucke*, no. 26), and appeared in numerous subsequent editions, including six or eight in the year 1518 alone (*Erstlings-Drucke*, nos. 129-136, and Gölner, *Turcica*, I [1961], nos. 105-109, where various other anti-Turkish items are listed as being printed in 1518). On the anti-Turkish tracts (*Türkenbüchlein*), see John W. Bohnstedt, "The Infidel Scourge of God: The Turkish Menace as Seen by German Pamphleteers of the Reformation Era," *Transactions of the American Philosophical Society*, n.s., LVIII, pt. 9 (1968), who has not failed to note (pp. 9, 17, 35-36) the *Anschlag cyns zugs wider die Türckenn*.

were to be included in the plan. Actually one might hope in this way to put an army of 500,000 in the field. The costs of equipping such an army could also be met by the monks if every person in a cloister (reckoning on an average of 30 persons in each cloister) contributed one penny a week; every week 14,400 pence would thus accrue to a general fund from all the cloisters, which would amount on an annual basis to 748,800 Hungarian *gulden*. The ambitious author of the tract believed additional sums could be raised through a general tax to be collected by the clergy, about 20,000,000 *gulden* in fact, without counting the impost on Jews and the voluntary offerings of rich and pious folk. If anyone should advance the argument that any such taxation would impoverish Christendom, he would be quite mistaken, for the money would return to the people through the purchase of provisions and munitions, and all areas would profit from the whole undertaking. The expansive author finally urged the organization of five armies, each of 50,000 men, to drive back the Turks, convert them to Christianity, and retake the Holy Sepulchre.<sup>151</sup>

Forty years later (in March, 1558), while assuring the then Emperor Ferdinand that he was indulging in "kein Rhetorick odder hohe Kunst," one Simon Wolder reckoned the available manpower of the monasteries as 2,200,000, with a half or a fourth of whom one would have plenty of men to fight the Turk: "Das macht zusammen zwei und zwenzig mal hundert tausent man: Wann gleich halb odder den vierdtertheil macht, so hetten wir dennoch leut überflüssig gnüg."<sup>152</sup>

<sup>151</sup> Ein sonder und furnem bedencken, Wie man wider den Turcken, der sich itzt mit Gewalt erfür gibt, Ziehen unnd denselbigen füglich weiss bekriegen und dempfen kan . . . , 1518, 8 leaves (on which note Carl Göllner, *Turceica*, I [1961], no. 111, p. 74), and cf. *Anschlag wider die grausamen und blutdürstigen Thiranneys des Türcken* . . . , 1541 (Göllner, I, no. 701, p. 331), both cited by Richard Ebermann, *Die Türkenfurcht*, diss., Halle a. S., 1904, pp. 38-40. The latter work is actually the tract of 1474/1518, on which cf. Bohnstedt, "Infidel Scourge of God," p. 17a. Pfeffermann, *op. cit.*, p. 248, note 37, mistakenly believes the plan outlined in the works cited above originated in June, 1523, when it was submitted to Pope Adrian VI (see following note).

<sup>152</sup> [Simon Wolder, Pommern,] *New Türckenbüchlein dergleichen vor diser zeit nie getruckt worden: Rathschlag und christliches bedencken, wie one sonderliche beschwerde der Obrigkeit, auch der Underthanen, der Christenheit Erbfeind der Türk zu Wasser unnd Land zu überziehen* . . . were . . . , durch Simon Wolder,

Yes, indeed. In the fifteenth and sixteenth centuries the Medici, Fugger, and various Venetian merchants as well as the Venetian government had an acute awareness of the significance of large numbers, but for Simon Wolder and his predecessors they obviously lacked meaning and could be employed with small sense of reality.

Although the *Klosterknaben* marching off to the Turkish wars appear in popular songs of the day, the German reformers were having none of them. Viewing the crusade as a crude ecclesiastical device to extort money, the advocates of reform took particular exception to the tithe, and were generally venomous in their attitude toward the papacy. A Latin pamphlet, represented as an oration before the princes at an imperial diet (printed in March, 1519, and once attributed to Ulrich von Hutten), may serve as an example of the anti-papal propaganda which had filled Germany for many years, and was now being directed against the Florentine Leo X with especial virulence:

If ever the German princes needed prudence, counsel, and concord to defend their honor and the common good . . . , they seem to me to require them above all at this time. . . . Four legates are now spewn forth . . . to the Christian nations to incite the kings and princes to undertake an expedition, but actually to mulct them of money. . . . But the Christian empire has been established not with arms, not with the sword, but by piety and the best examples of living. . . . We have lost many empires, because we have not retained the arts by which they were produced. Piety has been lost, but we have kept the word. . . . If . . . Germany . . . had concentrated the funds which she alone has poured out for pallia and such nonsense in the time of the two princes Frederick [III] and Maximilian, we should now have the sinews of a state entirely sufficient for a Turkish war. There would no longer be any

Pommern. . . . Frankfort, 1558, fols. ii<sup>v</sup>-iii, 4v-5, *et passim*. Wolder had, of course, studied the tracts of 1518 and 1541; his financial calculations are similar to theirs, but he reckons in *Taler* on a basis of 25 persons in some 200,000 "Stift und Clöstern" giving their penny each week. When he includes the parochial contributions with those of the monastic foundations, he reaches the total of 273,750,000 *Taler* available for war against the Turk each year. Besides an additional tithe on all ecclesiastical incomes, Wolder would also impose various assessments on the Jews and on the laity *hohes unnd nidern Stands, arm unnd reich, niemands aussgeschlossen*, and the sum of all moneys he would collect for the anti-Turkish war would amount each year to the grand total of 821,250,000 *Taler*! Essentially the same plan as that of 1474 and 1518 was presented to the consistory of Adrian VI on 12 June, 1523 (Charrière, I, 102).

need to weary the Christian world and load it with new tributes every day and to fleece the poor. The pope gets a revenue from his own lands such as no one of the Christian kings receives [!], and yet we keep buying pallia, and we send asses to Rome laden with gold; we do bear the yoke of Christ, we promise gifts, we exchange gold for lead, everywhere we tolerate negligences—alas, my pen slipped, I mean indulgences [*negligentias* (*heu lapsus sum calamo*) *indulgentias passim admittimus*]. The immense avarice of it all . . . !

You want to overthrow the Turk: I laud the ambition, but I fear you are going astray—seek [the enemy] in Italy, not in the East! Each one of our kings is strong enough to defend his own frontiers against the Turk. But all Christendom does not suffice to win out over that other [the pope]. The former, caught up in a tumult with his neighbors, has not injured us yet, but the latter [the pope] attacks everywhere and thirsts for the blood of the poor. You cannot slake this Cerberus' thirst except with a flood of gold. There is no need of arms, no need to raise an army. Tithes will accomplish more than troops. . . . I fear the indignation of Christ, not that of the Florentines; but in truth the business of the Florentines is getting done, not that of Christ.

Last summer at incredible expense a war was fought against Francesco [Maria della Rovere], the duke of Urbino, who was thrown out of his principality . . . . Now that the duke of Urbino has fled, [the pope] threatens the duke of Ferrara with a similar fate. When he has also been ejected, we shall set up a kingdom and salute Lorenzo de' Medici, citizen of Florence, as the king of Tuscany. . . . But remember that you are Germans, that is, that you are a people freer than others by nature, even as your enemies have written of you. Do not be a tribute-paying subject to anyone, least of all to the Florentines. . . .

At the imperial diet of Regensburg . . . a tithe was sought against the Turks. Then a certain prince elector, skilled in the art of war . . . said that with only a twentieth he would easily drive beyond the pillars of Hercules both the Turks and those who were demanding the tithe. These are the things, O Charles, to remember!<sup>183</sup>

<sup>183</sup> *Exhortatio viri cuiusdam doctissimi ad principes ne in decimae praestationem consentiant*, as printed in Wm. Roscoe, *Leo the Tenth*, III (1805), app., no. CLXXVIII, pp. 116-120, with brief selections in Charrière, I, 76, note, who takes his usual liberties with the text. In comparison with this tract Marius Aquicola's three *De bello Turcis inferendo suasiores*, addressed to Leo X, the Christian princes, and the clergy in general (printed without indication of place in June, 1519) are very dull, doing little for the clerical cause. Aquicola's title page bears the arms of Leo X.

On the trials of the papacy in Germany at this time, when the Sultan Selim loomed up as an ever greater menace to Hungary and the Hapsburg lands in the East,

Charles had a good deal to remember at this time, but doubtless his chief recollection, with him every hour of the day, was the rival candidacy of Francis I for the imperial crown. The Hapsburgs had no hereditary claim to the crown; the office of emperor was elective. The electors looked askance at the young Charles, who was already ruler of the Spanish kingdoms, the Netherlands, Naples and Sicily, the New World, and (since Maximilian's death) of the duchy of Austria. The heir of Charles the Bold of Burgundy as well as of Maximilian, of Ferdinand of Aragon as well as of Isabella of Castile, the young Charles, if chosen by the electors, would rule as emperor over more extensive domains than those of any predecessor since the days of Charlemagne. Certain electors, therefore, seemed favorably disposed toward Francis I, the brilliant victor of Marignano, the proposed leader of the crusade against the Turks, and the good friend of Pope Leo X since the conference of Bologna.

The French Chancellor Antoine Duprat prepared a memoir concerning the election in which the Turkish occupation of Greece, "the noblest part of Europe," was blamed on the "sloth and folly of the emperors," as a consequence of which the inhabitants were forced to abjure Christianity. In contrast Duprat described Francis' great qualities of mind and body, his youth and strength, wealth and liberality, his hardness as a campaigner and his popularity with the troops, "and finally his name alone would strike terror into the Turks if in addition to his other virtues he bore also the distinguished title of Caesar." A wide diversity of historical sources was employed, often irrelevantly, to show that while the seat of authority might change, the empire would remain

see Leo's letters of 22-23 August, 1518, addressed "legatis Germaniae," in Arch. Segr. Vaticano, Arm. XLIV, tom. 5, fols. 223-226. The Curia Romana understood well enough the extent of the damage being done to Catholicism by the inflammatory letters of Ulrich von Hutten against the Dominicans (*quos suos hostes appellat*), who were preaching against the Turks: see the original copy of an undated brief addressed to the Archduke Ferdinand of Austria, "governor of the Holy Roman Empire," demanding his support of the Dominicans against the rabble-rousing activities of Ulrich, whom the pope regards as almost as great a social menace as that "son of iniquity, Martin Luther, the heresiarch, source of such great evils" (Arm. XLIV, tom. 8, fols. 96-97), who was condemned in the long consistory of 21 May, 1520 (Acta Miscellanea, Reg. 6, fols. 314', 316, by modern stamped enumeration, and cf. fols. 317' ff.).

German. (Certainly Paris was closer to the Rhenish electorates than Madrid or Vienna.) Greece and the Holy Land had to be retaken from the Turks, and Francis had the resources to do so. The seven electors were appealed to, with the full array of their titles, to give heed to the state of the world (*attento presentium rerum statu*), and to elect as emperor the most Christian king of France as the sole sure bulwark against Turkish attacks. They could render the Christian commonwealth no greater service than this. While most of Duprat's memoir is trite, he struck one rather interesting note, in a backward glance at papal relations with the old imperial house of the Hohenstaufen:

[The electors] must also consider that the universal peace which now blooms in all the world should not be broken as a result of this election. For certainly the supreme pontiff would never allow the empire and the kingdom of Sicily to remain in the hands of the same person, which the constitution of Clement IV forbids, and so all Christendom might be shaken, some giving their support to the Church, others to the said electee [Charles], so that the Turkish tyrant, seeing Christianity thus divided, could easily attain to his desired objective.<sup>154</sup>

The rivalry of Charles and Francis was becoming so sharp, however, that it began to appear likely the flower of peace would be broken whichever of the two was elected.

In February, 1519, Francis I was still the energetic crusader, solemnly assuring Pope Leo X that he would go in person at the head of 3,000 cavalry and 40,000 infantry to ward off any possible Turkish attack upon Rome. If a general offensive should be organized against the Turks in accordance with the pope's crusading plans, and other nations would assume their due shares of the financial and other burdens, he would supply 4,000 cavalry and 50,000 infantry.<sup>155</sup> Conditions in the eastern Mediterranean were chaotic as usual, and two texts may be cited in place of many. A letter from Aegina, received in Venice in mid-December, 1518, informed the Senate of the "severe losses" (*grandissimi danni*) which Turkish corsairs had inflicted on the island.<sup>156</sup>

But the Turks had no monopoly on piracy, and two weeks later the Senate learned from the *provveditore* of the Venetian fleet in the Adriatic that western corsairs, understood to be French, had captured two ships from Candia in the port of Naxos. The ships were loaded with wines for Istanbul, and the French corsairs sent them to Rhodes with all their cargo, claiming to have papal authorization and the support of the European powers which were planning the crusade to seize all ships carrying foodstuffs to infidel ports. The report caused more than a flutter in the Venetian government, whose Cretan subjects had an extensive trade with the Moslems.<sup>157</sup>

During this period, when it seemed at least possible that Francis I might be elected emperor, his rival Charles was in touch with the Sultan Selim, who was then holding court at Adrianople. Although Selim raised the import duty on Ragusan goods from two to five per cent,<sup>158</sup> he was pursuing a friendly policy toward the western states, being very well aware of Leo X's attempts to organize a crusade and of the four papal legations to Germany and Spain, England and France. Venetian dispatches from Adrianople record the arrival of a Spanish ambassador at the Porte to secure a confirmation of the privileges of the Church of the Holy Sepulchre in Jerusalem and also of the rights of Christian pilgrims visiting the holy places. For the recognition of such rights and privileges the Mamlūk sultans had received an annual tribute, which it was hoped Selim would accept for the same display of tolerance. The sultan received the Spanish envoy in kindly fashion, gave him a golden kaftan and 5,000 aspers, and promised to grant Charles' requests if

Arcipelago da circa fuste 30 dei Turchi che dannano quelle insule . . . , and the Turks in Bosnia had been making incursions into Venetian territory (Arch. di Stato di Venezia, Sen. Secreta, Reg. 47, fol. 107, and cf. fols. 123<sup>r</sup> ff., and Reg. 48, 62<sup>r</sup> ff., 86, 184). The Senate believed that the pashas in Istanbul sometimes condoned and even encouraged acts of violence against Venetian subjects.

<sup>157</sup> Sanudo, *Diarii*, XXVI, 295-296: ". . . Et esso Provedador à inteso ditti corsari sono per nome dil Pontefice et de tutta la liga contra infideli, da li qual dicono haver libertà et ordine de introneter et prender tutti li navilii che portano victuaria a' infideli."

<sup>158</sup> Sanudo, *Diarii*, XXVII, 141: ". . . i Ragusei che pagavano do per 100 [il Signor Turco] vol pagano 5 come tutti li altri de loro mercadantie . . . , from a report of the Venetian bailie Leonardo [improperly called Lorenzo in this passage in Sanudo] Bembo, dated at Adrianople on 21 February, 1519.

<sup>154</sup> Charrière, I, 77-79, notes.

<sup>155</sup> Charrière, I, 81-82, and cf., above, note 177.

<sup>156</sup> Sanudo, *Diarii*, XXVI, 280. From a letter of the Venetian Senate to the bailie in Istanbul, dated 12 March, 1518, we learn that the sultan was taking steps against corsairs who had attacked Naxos. The Senate was not unaware that Venetian subjects were also engaged in piracy, but "siamo etiam advisati esser nel

he would send another envoy with full powers to conclude a special treaty between Spain and the Porte.<sup>189</sup> With reference to this diplomatic interchange, Charrière states that Charles "seemed to be approaching Turkey in case his rival should be elected,"<sup>190</sup> and this is quite conceivable, but the facts are not sufficient to justify any assumption of what Charles would in fact have done, had he not been elected emperor. It probably seems clearer to the historian who looks back upon the scene than it did to contemporaries that Charles' elevation to the supreme secular dignity in Christendom could be foretold with as great certainty as most events in human experience.

German public opinion would not tolerate a French emperor. There were many who wanted to pass over both Francis and Charles to maintain a better balance of power in Europe. Leo X was among them.<sup>191</sup> The Elector Frederick

of Saxony might conceivably have been elected, but when he announced Charles as his preference, the issue was in little doubt. One after the other the members of the electoral college declared for Charles, and on 28 June, 1519, he was elected king of the Romans without protest or dissenting vote.<sup>192</sup> Francis I became quickly disaffected with Leo X, whom circumstances had forced to give way in his opposition to Charles' election.

venoit, comme est vraysemblable que surviendra pour les préparatifs et menasses que fait le Turc" (*ibid.*, no. 17, p. 173, a document from the end of January, 1519). Pastor, *Hist. Popes*, VII, 255 ff., and *Gesch. d. Päpste*, IV-1 (repr. 1956), 175 ff., does not hesitate to emphasize Leo's extraordinary deviousness in trying to convince each of the two candidates for the imperial throne that he would have papal support (while at the same time Leo tried to win advantages for the Medici from both Francis and Charles).

<sup>189</sup> *Deutsche Reichstagsakten unter Kaiser Karl V.*, I, nos. 379-385, pp. 845-863, and see Cajetan's letter to Leo X, written at Frankfurt-am-Main on the day of Charles' election (*hoggi*), in *Delle lettere di principi*, I (1581), fols. 72v-73. On the observance of the election in Rome, note Paride Grassi, *Diarium*, ad ann. 1519, ed. Hoffmann, *Nova scriptorum . . . collectio* (1731), pp. 427 ff. Cf. Sanudo, *Diarii*, XXVII, 475-476, 483-485, 491-492, 540-541, 543, etc., 585 ff., 599, and Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fol. 101r.

Charles' foreign relations and German problems from his election to the spring of 1521 receive abundant illustration in the introduction and documents published by Adolf Wrede, *Deutsche Reichstagsakten unter Kaiser Karl V.*, II (Gotha, 1896, repr. Göttingen, 1962). At the diet of Worms, on 19 or 20 April, 1521, an Hungarian embassy which had appealed to Charles and the German estates for aid against the Turks was informed, "Sperat tamen sua Maiestas et ipsi status imperii ita omnia brevi disposituros, ut intra spacium anni sua Maiestas poterit personaliter cum . . . principibus christianis expeditionem contra Turcos suscipere et Christi fidei hostes abolere . . ." (*ibid.*, no. 109, p. 759). At a consistory held in Rome on 12 December, 1519, which the Cardinal Giulio de' Medici, the vicechancellor, did not attend because of illness (*in quo non interfuit ob moram infirmitatem quam patiebatur renibus*), letters were read from the ban of Dalmatia and Croatia to the effect that "ipsa regna parata erant adherere Turcharum tyranno atque illi tributum dare, significando quod miserunt ad regem Ungarie oratores suos qui ei protestarentur quod nolabant amplius obedire sue Maiestati postquam [f]o[ed]us cum eodem tyranno Turcharum fecerat . . ." after which Leo X said that he would write to the king of Hungary either to provide Dalmatia and Croatia with special protection or allow these "kingdoms" to come under the authority of another Christian king or under that of the Holy See, so that steps might be taken for their defense (Arch. Segr. Vaticano, Acta Miscellanea, Reg. 6, fols. 296<sup>v</sup>-297<sup>v</sup>, by modern stamped enumeration).

<sup>189</sup> Sanudo, *Diarii*, XXVII, 65, 79, 120, 184, 198, and esp. cols. 141, 280, reports of the Venetian bailie Leonardo Bembo from Adrianople dated 21 February and 3 April, 1519.

<sup>190</sup> Charrière, I, 82.

<sup>191</sup> Cf. the Cardinal Cajetan's long analysis of the political situation in Europe with reference to the imperial election, in his letter to Leo X dated at Frankfurt on 29 June, 1519, in *Delle lettere di principi*, I (Venice, 1581), fols. 67v-72v. By the beginning of the year 1519 Leo had acquired such a distrust of Francis I that it was almost inconceivable that the papacy should assist the French imperial ambition. At the same time "a nessun patto Sua Santità vorria che questo Imperio pervenissi nel Catholicco" [Charles], because of the power which the Hapsburg dominions bestowed upon Charles ("Manoscritti Torrigiani," *Arch. stor. italiano*, 3rd ser., XXV [1877], 370 and ff.), in which connection note the Venetian ambassador's report to the Signoria dated 13 March, 1519, in Rawdon Brown, ed., *Calendar of State Papers . . . , Venice*, II (London, 1867), no. 1175, pp. 503-504: the pope could not abide the thought of the election of Charles, whose Neapolitan borders reached within forty miles of Rome. The electors were of course divided, some favoring Charles and others Francis (Sanudo, *Diarii*, XXVI, 479-480, 484-485, 489, 501-505, 508, and vol. XXVII, 25 ff., 67-68 ff., 102-103, 117, 124, 130, 145-146, 171-172, etc., 249, 282, 308-309, etc.). Cf. Guicciardini, *Storia d'Italia*, XIII, 11-13, ed. Florence, Salani, 1963, III, 287-297.

Francis's relations with the German princes may be explored in endless detail in the introduction and documents published by August Kluckhohn, ed., *Deutsche Reichstagsakten unter Kaiser Karl V.*, I (Gotha, 1893, repr. Göttingen, 1962). One of the arguments used for Francis's election rather than that of Charles was "que les royaumes d'icelluy roy catholique [Charles] sont loing de la Germanie, tellement que non seulement est difficile, mais quasi impossible de bailler aide et secours d'icellux à la Germanie, si quelque gros affaire y sur-



and the French court lost all its feigned enthusiasm for the crusade. The imperial title as well as the imperiled location of the Hapsburg duchies of Austria, Styria, Carinthia, and Carniola, and the county of Tyrol, made the Emperor Charles V, *nomen et omen*, the natural defender of Christendom against the Turks.<sup>193</sup>

Charles was also vulnerable to Turkish attack in southern Italy and Sicily. Except for a short seacoast on the Mediterranean, however, Francis was well protected from such attack, but he was now hemmed in on all sides by either the lands or the claims of the new emperor, for Charles was little inclined to accept Francis' continued possession of the duchy of Burgundy, which Louis XI had added to the French domain. Causes for conflict between the two young sovereigns existed everywhere. Charles held Naples, but Francis could not forget the old Angevin claim to the Two Sicilies. Francis had taken Milan by force of arms, but Milan was an imperial fief, and without the emperor's investiture (which Maximilian had of course withheld and Charles would never grant) he held it as an act of violent usurpation, at least in Charles' eyes. Disputes of long standing had been inherited in Artois and Flanders. Charles' grandfather Ferdinand of Aragon had driven the family of d'Albret from the kingdom of Navarre, and the French were determined to restore them. As certainly as the polarization of hostilities between Athens and Sparta or Rome and Carthage had led to war, so France was being drawn into conflict with Spain.

When the Sultan Selim died at dawn on 22 September, 1520,<sup>194</sup> European plans for the crusade faded away. Leo X heard the news in late October from both Ragusan and Venetian sources. He was vastly relieved, thanked God for the sultan's death, and now looked forward to peace on the threatened eastern fronts.<sup>195</sup> Selim's successor Sulaiman was widely believed to be a peaceful young man, from whom Christendom would

<sup>194</sup> Sanudo, *Diarii*, XXIX, 306, 321, 323, 339, 341-342, 357-359, 361, 365, 368 ff. Contrary to the statement sometimes made, Selim was not getting ready to attack Rhodes at the time of his death (*ibid.*, XXIX, 265-266) although there was constant fear that he might do so (Venezia, Biblioteca del Museo Correr, MS. Cicogna 2848, fols. 330', 333', 335', from the diary of Marcantonio Michiel). Despite Turkish raids on Zara, Sebenico, and Cattaro, which netted the Turks a "grande quantità di putti, animali, et altra preda," Selim insisted upon his pacific intentions (*ibid.*, fols. 328', 328', and cf. in general fols. 334', 336 ff.), but the preparation of a great armada in the arsenal at Istanbul led the Venetian Senate on 29 May, 1520, "ad fare ogni expediente provisione de ingrossar l'armata nostra, si per conservazione de le terre et loci nostri maritimi come per conforto de tutti quelli subditi nostri di Levante" (Arch. di Stato di Venezia, Sen. Secreta, Reg. 48, fols. 121'-125' and ff.): From Venice, the region of Friuli, Dalmatia, and throughout the whole *terra ferma* there was to be a conscription of "a goodly number of oarsmen"; galleys were to be equipped and armed, and the *provveditore* Zaccaria Loredan, who was setting out for Cyprus, was warned that his island charge might well be the Turkish objective. Sebastiano Giustinian was sent to Crete with a like admonition (*ibid.*, Reg. 48, fols. 125-127). Although by 20 June (1520) the Turkish threat appeared to be a false alarm, the Republic continued to arm galleys (*ibid.*, fol. 131', and cf. fol. 133', dated 4 July, etc.).

On the death of the Sultan Selim and the accession of Sulaiman, the Venetian Senate wrote the bailie in Istanbul on 7 November, 1520 (Arch. di Stato di Venezia, Sen. Secreta, Reg. 48, fol. 154'): "Heri per la via de Ragusi ricevessemmo le vostre de ultimo Septembrio fino 4 del preterito per lequal ne significate la morte del serenissimo q. Signor Selin et poi la felice successione del serenissimo Sulaiman suo fiolo a quel imperio cum tanta satisfactione de animo de quelli signori et populi quanta ne scrivete, il che e stato causa de minuir il dolor che havevamo riceputo de la morte del padre, havendo maxime inteso per dicte vostre la iustitia, bonta, sapientia, et valorosita del predicto serenissimo Signor Sulaiman . . ." all of which qualities Sulaiman proved to have in good measure. On 7 and 20 November the Senate wrote Sulaiman their assurance of friendship, and sought a continuation of their peace with the Porte (*ibid.*, Reg. 48, fols. 154' ff.).

<sup>195</sup> Sanudo, XXIX, 342-343: ". . . Soa Beatitudine ringratia il nostro Signor Dio . . . , dicendo à una bona nova, [il Turco] era homo malvaso, staremo hora in pace et la cristianità potrà star sicura."

<sup>193</sup> Cf., for example, Charles V's titles in Predelli, *Regesti dei Commemoriali*, VI, lib. XX, no. 111, p. 157, doc. dated 20 July, 1519. He still retained in the Spanish titulature the old Catalan claim to the Latin duchies of Athens and Neopatra (cf. K. M. Setton, *Catalan Domination of Athens*, Cambridge, Mass., 1948, p. 31, note 37). The vast extent of Charles' domains fascinated the contemporary German mind, still being fed on the vague, medieval dreams of universal imperial sovereignty; cf. the *Türckenpuechlein* of 1522, unnum. fol. 23v (= sign. F iii), where the list "des Kaisers Carles Tittel" occupy almost a full page. On the imperial election itself, cf. Ursu, *La Politique orientale de François I*, pp. 14-18, and Brandi, *Emperor Charles V*, pp. 99-112: As a whole papal policy had been merely an attempt to hinder the election of Charles without taking particular pains to help effect that of Francis. Brandi, *op. cit.*, p. 113, thinks that Charles was duke of "Athens and Patras" (!), but a memorandum in Sanudo, *Diarii*, XXVI, 268, records Charles' numerous titles correctly, including that of *duca di Athene et de Neopatria*.

have nothing to fear.<sup>196</sup> Now Charles V and Francis I each regarded the other as his chief enemy, not the Turk, and each sought the support of Henry VIII and Leo X.

Although Henry met Francis amicably, even effusively, on the Field of the Cloth of Gold in June, 1520,<sup>197</sup> he went on to Gravelines in July to reach an agreement with Charles.<sup>198</sup> For reasons which the Chancellor Duprat had envisaged in his memoir on the imperial election—the papal policy, long pursued, of keeping Naples and Sicily out of the German emperor's hands—Francis seems to have thought he could rely on Leo X, but the latter now needed Charles' help to suppress the Lutheran revolt in Germany as well as to regain Parma and Piacenza, which he had been obliged to relinquish. Lutheran affairs were in fact already coming to replace the Turkish peril as one of the larger preoccupations of the Curia Romana.<sup>199</sup>

<sup>196</sup> Sanudo, *Diarii*, XXIX, 353, 357, 361, 390, 391. In January, 1522, Juan Manuel, Charles V's ambassador in Rome, believed that the Turks were not then likely to attack any Christian state (G. A. Bergenroth, ed., *Calendar of . . . State Papers . . . , Spain*, 11 [London, 1866], no. 381, p. 399), but inevitably the news soon came that the Turks were preparing for war (*ibid.*, nos. 395–396, 417).

<sup>197</sup> Sanudo, *Diarii*, XXVIII, 465–470, 557, 565, 638, 639–640, 642, 644–650, 658–661, and vol. XXIX, 48–50, 78 ff., 233 ff.; Martin du Bellay, *Mémoires*, bk. 1, ed. M. Petitot, *Collection complète des mémoires*, XVII (Paris, 1821), 283–285, and (a better edition) eds. V. L. Bourrilly and F. Vindry, 4 vols., Paris, 1908–1919, I, 99–102. In letters of 10 July, 1520, to Cardinal Wolsey and Francis I, the Venetian Senate rejoiced in the prospect of peace which the meetings of the kings seemed to be providing for Europe (Arch. di Stato di Venezia, Sen. Secreta, Reg. 48, fols. 135<sup>v</sup>–136<sup>r</sup>).

<sup>198</sup> Cf. Sanudo, *Diarii*, 470–477. Henry and Charles had already conferred at Dover and Canterbury in late May, 1520 (*ibid.*, XXVIII, 594, 596–598, 617, 630, 631–632, 636–637, 638–639, and vol. XXIX, 5), and in August, 1521, the treaty of Bruges bound them together in an alliance.

<sup>199</sup> Cf. Sanudo, *Diarii*, XXVIII, 581, 608, 621; vol. XXIX, 492; and vol. XXX, 60, 130, 192, 210 ff.; L. Lalanne, ed., *Journal d'un bourgeois de Paris* (1854, repr. 1965), pp. 94–96; Guicciardini, *Storia d'Italia*, XIII, 15, ed. Florence, Salani, 1963, 111, 303–307. On 6 June, 1521, Juan Manuel, the imperial ambassador in Rome, wrote his master Charles V that he had discussed Luther with the pope, and expressed the opinion that Charles "must proceed in the affair of Luther in accordance with the desires of the pope" (G. A. Bergenroth, ed., *Calendar of . . . State Papers . . . , Spain*, 11 [London, 1866], no. 341, p. 354).

Leo generally preferred the pleasures of the hunt to worry,<sup>200</sup> but he was anxious to send the Rhodian Grand Master del Carretto two galleons and a thousand men as well as to write still more crusading appeals to the Christian kings,<sup>201</sup> and he breathed much more freely when the Turkish threat to Rhodes disappeared with the disbandment of the Turkish fleet.<sup>202</sup>

The confrontation of Spanish and Turkish vessels in the Mediterranean, especially in Sicilian waters, was tending to cast the young Emperor Charles in the role of a crusader, a circumstance which inevitably drew Leo X closer to him. The persistent refusal of the Venetians, however, to participate in any of Leo's crusading plans had caused a large dissatisfaction with Venice. The statesmen on the lagoons were determined not to be drawn into hostilities with the Porte. On 22 August, 1520, for example, a letter dated 8 July from Tommaso Contarini, the Venetian bailie in Istanbul, was read in the Senate. Contarini reported that the sultan's trusted minister, Peri Pasha, had asked him what the Venetians would do if the Turkish and Spanish fleets met at sea. Which side would Venice help? The bailie replied that he did not believe his countrymen would provide any impediment to Turkish operations, because the Republic wished to preserve the peace it had made with the Porte. Peri Pasha was pleased with the reply, and assured the bailie of the sultan's love for Venice and of his desire that Venetian merchants should be well treated in his domains.<sup>203</sup> The Venetian Senate could only regard this as good news.

One of those periods had come (it would not last long) when the interests of the pope and the emperor appeared to coincide. An agreement was made between them, according to which the

<sup>200</sup> Cf. Domenico Gnoli, "Le Cacce di Leon X," *Nuova Antologia di scienze, lettere ed arti*, 3rd ser., XLIII (Rome, 1893), 617–648. Leo was in fact hunting when the Venetian ambassador got the news to him of the sultan's death (Sanudo, *Diarii*, XXIX, 342–343).

<sup>201</sup> Sanudo, *Diarii*, XXVIII, 608, 617, 621, 636, 652, and cf. vol. XXIX, 362: "Li galeoni del Papa statì a Rodi passò di lì . . ." (in September, 1520).

<sup>202</sup> Sanudo, *Diarii*, XXIX, 9–10, 13–14, 15. Selim had given orders to put the Turkish fleet into dry dock long before his death.

<sup>203</sup> Sanudo, *Diarii*, XXIX, 124, but it was hard to remain on good terms with the Turks (cf., *ibid.*, XXIX, 359). Tommaso Contarini's commission as Venetian bailie to Istanbul is dated 10 March, 1519 (Arch. di Stato di Venezia, Sen. Secreta, Reg. 48, fols. 2 ff.).

French would be driven from Milan, and Parma and Piacenza would be restored to the papacy.<sup>204</sup> Eastern affairs were almost forgotten. War was officially declared on 1 August, 1521, and so there was no cause for surprise when, on 4 September, Leo X held Francis I up to scorn and criticism in a bull prepared *ad futuram rei memoriam* for collecting tithes on the revenues of all the churches, monasteries, and other benefices throughout the entire kingdom of France, which had been assigned to him solely for the needs of the crusade against the bestial Turks (while he had bound himself by oath not otherwise to employ them), and for selfishly and impiously diverting these funds to his own purposes.<sup>205</sup>

<sup>204</sup> Cf. Sanudo, *Diarii*, XXXI, 21, 172. On 3 April, 1521, the Venetians repeated their pledge to stand with the French against Charles V (Arch. di Stato di Venezia, Sen. Secreta, Reg. 48, fols. 179' ff.), but they made peace with Charles on 17 May and were anxious to preserve it (*ibid.*, fols. 182' ff., 188'-191'). A state of war virtually existed between Leo X and Francis I from late June (*ibid.*, fols. 194' ff., letter of the Venetian Senate to their ambassador in Rome dated 3 July, 1521), bringing to an end the triple entente of France, the papacy and Venice (see the following note).

<sup>205</sup> Arch. Segr. Vaticano, Reg. Vat. 102, fols. 209'-209", "datum Rome, etc., anno etc. millesimo quingentesimo vigesimo primo, pridie non. Septembris, pontificatus nostri anno nono." Cf., *ibid.*, fol. 134', bull dated 27 July, 1521. For undated texts of the *Capitula inter Leonem X et regem Christianissimum tractanda pro salute Reipublice Christiane*, see AA. Arm. I-XVIII, no. 2663: this papal-French entente, which had now perished, had begun with the significant consideration that "sanctissimus dominus noster [Leo X papa] desiderat imprimis et super omnia pacem universalem inter populos principesque Christianos ut illis conciliatis adversus imminantes fidei hostes sancta expeditio fieri possit tam necessario tempore quo non iam de illorum finibus atque imperiis aggradiendis sed de nostris defendendis est deliberandum. . . ." The Venetians had been included in this entente (Arch. di Stato di Venezia, Sen. Secreta, Reg. 48, fols. 177' ff., docs. dated 3 April, 1521). For the terms of the final agreement between Leo X and Charles V, see the Vatican Lettere di Principi, vol. XI, fols. 192-197: *Capitula nove confederationis inter sanctissimum dominum nostrum Leonem papam decimum et serenissimum Caesarem Carolum Romanorum regem electum*, a text attested in 1549 as being in the hand of Sadoleto. Another text may be found in AA. Arm. I-XVIII, 1443, fols. 172' ff. Dispatches preserved in Sanudo's *Diarii* trace step by step the formation of the alliance between Leo and Charles. If the papacy must rely upon Charles (in the spring of 1521) to proceed against the Turks and the Lutherans, Leo X could see no reason why the Medici family should not at the same time seek imperial protection and patronage (cf. Brandi, *Emperor Charles V*, p. 153); on the war between

Christian fortunes in the Levant were often determined by developments in the West. During the early years of the young Sultan Suleiman I, the Emperor Charles V was caught up in the revolt of the Castilian townsmen, the *Comuneros*, who professed to be fighting for "Santiago y Libertad" (1520-1521). Francis I supported Robert de la Marek, duke of Bouillon and lord of Sedan, who invaded the emperor's Belgian territories and besieged Vireton in Luxembourg. The French commander, L'Esparre, a brother of the Marshal Lautrec, invaded Navarre and set Henri d'Albret upon the throne in Pampeluna, after a siege in which Ignatius Loyola received the wound which changed his life and the religious future of Europe.<sup>206</sup>

Charles and Francis, cf. the latter's letter of 19 June, 1521, to the French ambassador in Rome, in Charles Weiss, ed., *Papiers d'état du Cardinal de Granvelle*, I, 116-124, and esp. the dispatches of Juan Manuel, imperial ambassador in Rome, to Charles, in G. A. Bergenroth, ed., *Calendar of . . . State Papers . . . Spain*, II (London, 1866), nos. 337 ff., pp. 350 ff.

Leo X's involvement in the war with Francis did not of course diminish the Turkish threat to Hungary, in which connection note Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fol. 129': "Reverendissimus Cornelius legit litteras Regis Polonie rogantis suppetias pro defensione Regni Ungarie in periculo existentis. Tamen Sanctissimus [dominus noster] dixit se postea habuisse litteras quod Turce missi expugnatum Belgradum multi fuerunt interfecti, et propter valida presidia que venerant ex Austria et Bohemia, et Rex Ludovicus cum magno robore ibat ad liberandum Belgradum ab obsidione, adeo quod Magnus Turca fuit coactus retrocedere per 20 miliaria, et Sanctissimus cogitabat de aliquo modo pecuniario quo possit ipsum Regem adjuvare" (in the consistory of Friday, 24 August, 1521). On the Turkish expedition against Hungary, cf. Arch. di Stato di Venezia, Sen. Secreta, Reg. 49, fols. 1', 3, 6', 7, 21, 29 ff. The Venetian government sought to deter the great powers from embarking upon another war in Italy, and to persuade them to use their armaments on behalf of King Louis II of Hungary, "quale si attrova insieme cum el suo regno in cussi evidentissimo periculo et non solum epso regno, ma la Germania, Italia, et tuta la universal repubblica Christiana per la tremebunda et formidolosa potentia del Signor Turco che za ha fatto progresso in epso regno. . ." (*ibid.*, Reg. 49, fol. 8', and cf. fol. 28).

<sup>206</sup> Jean d'Albret, the king of Navarre, had died on 21 June, 1516, leaving his claims to the throne to his son Henri, who was now restored (cf. Lalanne, *Journal d'un bourgeois de Paris*, pp. 41, 89-90). Sanudo, *Diarii*, XXX, 175, 190, 193, 195, 319, 359, 374, 466, and vol. XXXI, 12, 16, 75, 88, 109-110, etc., 300, on de la Marek and d'Albret; Guicciardini, *Storia d'Italia*, XIV, 1, ed. Florence, Salani, 1963, III, 317-318; Martin du Bellay, *Mémoires*, bk. I, ed. M. Petitot, *Collection complète des*

Francis I's activities were a flagrant violation of the treaty of London, which he had himself promoted when he had imperial ambitions. The attacks of both Robert de la Marck and L'Esparre had come while Charles V was at the diet of Worms,<sup>207</sup> as the emperor complained in a letter to the Signoria of Venice on 9 June, 1522, denouncing Francis's breaking of the treaty and requesting the due intervention of England and Venice as signatories of the treaty and guarantors of its terms. Henry VIII was said to be ready to meet his obligations under the treaty, and Charles warned the Signoria of French aspirations in Italy.<sup>208</sup> But Venice was then the ally of France and, after the League of Cambrai, might well be expected to consult her own assumed interests (as she had always done anyway) rather than abide by the letter of a treaty which Leo X had himself declared to be chimerical.

The French were defeated on 30 June, 1521, at Esquiroz near Pampeluna, and Charles' forces easily regained "la cité de Pampelune et tout le

royaume de Navarre."<sup>209</sup> In Italy, Francis I still held the great duchy of Milan and was of course in alliance with Venice. But the war could not be confined to areas of Francis's own choosing, and on 19 November, 1521, old Prospero Colonna, who then served as commander of the combined imperial and papal troops, expelled the unpopular Lautrec from Milan after most of the latter's Swiss mercenaries had deserted during the cold and rainy weeks of futile maneuvering which had preceded Colonna's attack.<sup>210</sup> If the fighting along the Pyrenees and the Netherlands frontier was of secondary importance, the war

<sup>209</sup> Lalanne, *Journal d'un bourgeois de Paris*, p. 91; Sanudo, *Diarii*, XXXI, 106, 107-108, 146, 194.

<sup>210</sup> Cf. Paride Grassi, *Diarium*, ad ann. 1521, ed. Chr. G. Hoffmann, *Nota scriptorum . . . collectio* (1731), pp. 475-476. The news of the fall of Milan to Colonna first reached Venice on Thursday morning, 21 November, in a dispatch from Andrea Foscolo, podestà and captain of Crema: "Li avisava come quel zorno, a di 19, hore 23, i nimici erano intrati in Milan e roto francesi et nostri . . ." (Sanudo, *Diarii*, XXXII, 153-154, and see in general cols. 155, 158 ff., 183 ff., etc.). Cf. Guicciardini, *Storia d'Italia*, XIV, 9, ed. Florence, Salani, 1963, III, 371-374, and Martin du Bellay, *Mémoires*, bk. II, ed. M. Petitot, *Collection complète des mémoires*, XVII (Paris, 1821), 345-355, and eds. Bourrilly and Vindry, I, 186-199, who describes the loss of Milan in detail. Lautrec's difficulties can be followed in the Arch. di Stato di Venezia, Sen. Secreta, Reg. 49 (1521-1522), and on the loss of Milan on 19 November, 1521, note, *ibid.*, fols. 43-45\*, 46\*-48\*.

In the bull *Pacifici regis* of 27 July, 1521, Leo X had imposed ecclesiastical penalties on Thomas de Foix, lord of Lescun, Lautrec's brother, the French commander in Lombardy (Arch. Segr. Vaticano, Reg. Vat. 1202, fols. 134\*-137\*, by mod. stamped enumeration, "datum Rome apud Sanctum Petrum, anno etc. millesimo quingentesimo vigesimo primo, sexto Kal. Augusti, pont. nostri anno nono"), taking the opportunity to castigate the French violation of the five-years' peace and their attacks upon the Holy See, which had impeded the "sanctum ac necessarium bellum contra perfidos Christi nominis hostes Turchas, cervicibus nostris insultantes et subinde novis victoriis virum suarum terminos preferentes . . ." (*ibid.*, fol. 134\*). The text of the bull *Pacifici regis* may also be found in Sanudo, *Diarii*, XXXI, 498-503, who also gives the text of Charles V's imperial edict against the king of France, dated at Antwerp on 12 July, 1521 (*ibid.*, cols. 504-506). For references to further bulls of 27 July, 1521, against the French, consult in the Arch. Segr. Vaticano the *Schedario Garampi*, vol. 102 (= Indice 545), *Cronologico*, vol. 8, for the years 1505-1541, fols. 44\*-44\*: the French had also violated the convention-  
tation between the Holy See and the king of France relating to the sale of salt in the duchy of Milan: for the text of the convention in question, see AA. Arm. I-XVIII, no. 1669, article 4. (The bull *Pacifici regis* was copied a second time, presumably by error, in Reg. Vat. 1202, fols. 158\*-161\*, by stamped enumeration.)

*mémoires*, XVII (Paris, 1821), 277, 287-300, and eds. V. L. Bourrilly and F. Vindry, I (1908), 88-89, 104-122. Leo X was still anxious to get Charles V and Francis I "to turn their arms against the Turk" (Sanudo, XXXI, 89, 105-106, and cf. col. 192, and vol. XXXII, 116), who was again seen as a threat to Hungary. According to Michael Sander, Cardinal Schiner's secretary, Charles was ready to go personally on a crusade unless Francis, *perfidus vicinus*, forced him into a war in Europe (a letter dated at Ghent on 1 August, 1521, in Büchi, *Korrespondenzen . . . d. Kard. Matth. Schiner*, II [1925], 441, and cf. Charles' own letter to Schiner from Ghent on 2 August, *ibid.*, pp. 445-446).

Juan Manuel, the imperial ambassador in Rome, wrote Charles on 15 August that while the Christian princes should combine against the Turks, they were unlikely to do so, and so the sole hope of Christendom was that Charles might soon conquer his enemy Francis and then undertake a war against the Turks (G. A. Bergenroth, ed., *Calendar of . . . State Papers . . . , Spain*, II [London, 1866], no. 352, p. 364).

<sup>207</sup> Among other sources, cf. Jean de Vandenesse, *Journal des voyages de Charles-Quint*, in L. P. Gachard, *Collection des voyages des souverains des Pays-Bas*, II (Brussels, 1874), 64, 122-123.

<sup>208</sup> Predelli, *Regesti dei Commemoriali*, VI, lib. XX, no. 165, p. 170. Antonio Surian, the Venetian ambassador to England, had informed the Senate during the mid-summer of 1521 that "questa Maestà di Anglia fusse contra Franza come primo invasor di capitoli" (Sanudo, *Diarii*, XXXI, 300), but Francis claimed that Charles had first violated the treaty (*ibid.*, XXXI, 450-451). As the western powers forgot the Porte, the Venetians renewed their "good peace and friendship" with the sultan on 17 December, 1521 (Archivio di Stato di Venezia, Documenti turchi, Turkish text in Arabic script, dated at Istanbul, A.H. 928, Muharram 17).

in Italy was a major contest. When the French were driven from Milan, the city and duchy were restored to Lodovico il Moro's (second) son Francesco, who duly recognized the emperor's suzerainty. Parma and Piacenza were taken over by papal troops.<sup>211</sup> The adherents of the Medici had cause for rejoicing, but it was short-lived.

On Monday, 1 December, 1521, Pope Leo X died unexpectedly, celebrating the news of Colonna's success at Milan. Paride Grassi says that he died of pneumonia (*ex catarrho superfluo*), and adds that there were rumors of poison (*sicet aliqui dixerint ex veneno*).<sup>212</sup> The pope's lead seal and fisherman's ring were broken, according to custom, in the presence of the twenty-nine members of the Sacred College who were then in Rome. Leo's first obsequies were held the following Monday, 7 December, in the Sistine Chapel so that the cardinals might be spared the discomforts of a cold day. A great spendthrift, the pope received a niggardly funeral. He had exhausted the papal treasury, and what he had not spent himself, the officials of the Curia had managed to make off with in one way or another, *nam quasi omnes officiales isti*, says Paride Grassi, *fuertunt mercatores Florentini acutissimi!* As Leo lay that day in the dark silence of death, neither secular priests nor friars said special masses, nor were alms given, for the dead pontiff's soul. There was no money for these purposes. Paride Grassi, who had resigned his office as master of ceremonies *quasi fessus et senex*, was shocked by the negligence and disorder which obtained. But after the first day the cardinals imposed upon him the burden of the remaining ceremonies, and the Sistine was prepared for a new conclave amid the usual grumblings. Some cardinals complained of Paride Grassi's officiousness, and the Venetian ambassador complained that the roads to Rome were unsafe.<sup>213</sup> Indeed, all Italy was unsafe, for

Colonna's victory was indecisive, and the war was soon resumed.

The imperial forces took over Alessandria, Pavia, and Como, and on 27 April, 1522, Colonna again defeated Lautrec in the famous battle of Bicocca, a few miles to the north of Milan, when the arquebus finally showed the Swiss pikeman to

Carlo Grigioni, "Biagio da Cesena," *Studi Romagnoli*, V (1954), 349-388.

After serving as Venetian ambassador in Rome for forty months, Marco Minio had informed the Senate in the spring of 1520 that the papacy had a limited direct income of some 220,000 ducats although the pope might sell a cardinal's hat for 40,000 ducats (*E si dice se vol far cardinali solum 10, traserà ducati 400 milia . . .*). Minio puts the Cardinal Riario's fine for involvement in Petrucci's conspiracy at 300,000 ducats, which is twice the true amount, but in any event Minio says that Leo could not hold on to money, was generous, and had his Florentine friends and relatives to spend his last cent, *poi li Fiorentini, si fano e sono soi parenti, non lo lassa mai aver un soldo* (Sanudo, *Diarii*, XXVIII, 576). In March, 1517, Marino Giorgi had put the papal income at 420,000 ducats a year (*ibid.*, XXIV, 91). The actual figure can no longer be recovered, and the pope himself doubtless did not know very precisely what his income was. On Leo X's finances, cf. Pastor, VIII, 95 ff., and *Gesch. d. Päpste*, IV-1 (repr. 1956), 366 ff. On Leo X's last hours and death, see Sanudo, *ibid.*, XXXII, 203-206 ff., 230 ff., and Pastor, *Hist. Popes*, VIII, 63-70, and *Gesch. d. Päpste*, IV-1 (repr. 1956), 345-349. There was rejoicing in Venice, where Leo was said to have served the Turk and threatened the future of Christianity, *dicendo è morto un capitano general di Turcho e uno che minava la christianità . . . !* (*ibid.*, XXXII, 207). Alvise Gradenigo, who was the Venetian ambassador to the Holy See at the time of Leo's death, agrees with Paride Grassi, that the pope died without money, and it was hardly possible to bury him for want of funds (*nè si ha potuto quasi farli le exequie*). Gradenigo says that as pope Leo had spent 4,500,000 ducats, and left debts of 400,000 ducats (*ibid.*, XXXII, 230, 262). For Leo's funeral, see again Sanudo, XXXII, 260 ff. Leo's reign had provided the writers of pasquinades with endless opportunities to display their talents (Sanudo, XXXII, 289, and cf. cols. 302 and 356; Erasmo Pèrcopo, "Di Anton Lelio Romano e di alcune pasquinate contro Leon X," *Giornale storico della letteratura italiana*, XXVII (1896), 45-91; G. A. Cesareo, *Pasquino e pasquinate nella Roma di Leone X*, Rome, 1938 [in the Miscellanea della R. Deputazione romana di Storia Patria]; and Mario dell'Arco, *Pasquino e le pasquinate*, Milan, 1957, pp. 31-51).

The official Venetian reaction to Leo's death was of course quite restrained (Arch. di Stato di Venezia, Sen. Secreta, Reg. 49, fols. 54<sup>v</sup>-55<sup>r</sup>, letter of the Senate to the Sacred College dated 10 December, 1521): "Audito nuper nuntio de obitu pontificis Sanctitatis, saneque pro eo ac debuimus, gravi dolore affecti sumus, in quo tamen amplius dicendum non est quam divine voluntati acquiescendum. Pertinere autem ad officium nostrum arbitrati sumus in hisce presertim rerum ac temporum maximis perturbationibus aliquid ad reverendissimas dominationes

<sup>211</sup> Guicciardini, *Storia d'Italia*, XIV, 1, 9, ed. Florence, Salani, 1963, III, 321, 373.

<sup>212</sup> Both Paolo Giovio and Guicciardini believe that Leo X died of poison, and cf. Arch. Segr. Vaticano, Acta Consistorialia, Acta Miscell., no. 31, fol. 132r: "... Dominus noster D. Leo divina providentia Papa mortuus est febre tertiana duplici, non sine suspitione veneni propinati a suis cubiculariis charissimis quos Sua Sanctitas extulerat. . . ." Essentially the same text appears in the consistorial records as given in the Acta Miscellanea, Reg. 6, fol. 382<sup>r</sup>, by modern stamped enumeration.

<sup>213</sup> Paride Grassi, *Diarium*, ad ann. 1521, ed. Hoffmann, *Novae scriptorum . . . collectio* (1731), pp. 477-487. At the time of Leo X's death the papal master of ceremonies was Biagio Martinelli da Cesena, on whom see

be a military anachronism<sup>214</sup> Two years later the French Admiral Guillaume de Bonnavet was defeated in his turn, in the "rout of the Sesia," at the end of April 1524. But Francis was determined to relax no whit his Italian ambitions. The French campaigns in Italy had been a mistake. The independence of the Italian states would have been a boon to France, and Sismondi was right in asserting that the French kings sought subjects where they should have sought allies. The French might have helped keep the Spanish out of the peninsula, but their policy prompted Ferdinand the Catholic to move into southern Italy and Maximilian constantly to meddle in the affairs of northern Italy. Charles V became the heir of both Ferdinand and Maximilian, and the French were slow to perceive they had no future in Italy.

After an ill-advised four months' siege of Pavia, prolonged through the dead of winter in 1524-1525, Francis was himself defeated by the imperial commanders Lannoy, Pescara, and the Constable of Bourbon in a daring pre-dawn attack across the Vernacula upon the French camp in the park of Mirabello, just north of Pavia. The battle was fought on 24 February, 1525; it was a disaster for Francis, who was taken captive.<sup>215</sup> News of the victory at Pavia reached Charles V in Madrid on 10 March. He informed the Flor-

vestras litterarum dare . . ." and (as the Senate also wrote the Venetian ambassador in Rome) the greatest care must be exercised in choosing Leo's successor. There was also some restraint in the Senate's congratulations to Hadrian VI upon his election, despite the usual formal praise, and much emphasis put upon the perils of the time (*ibid.*, Reg. 49, fols. 61<sup>r</sup>-62<sup>r</sup>, 75<sup>r</sup>-76<sup>r</sup>, letters dated 21 January and 8 April, 1522). Hadrian VI had been the tutor of Charles V.

<sup>214</sup> Sanudo, *Diarii*, XXXIII, 197-203, 213-216; Guicciardini, *Storia d'Italia*, XIV, 14, ed. Florence, Salani, 1963, III, 407-409; Martin du Bellay, *Mémoires*, bk. II, ed. M. Petitot, *Collection complète des mémoires*, XVII (Paris, 1821), 376-382, and eds. Bourrilly and Vindry, I, 224-231, in detail; Paolo Giovio, *La Vita del Marchese di Pescara* (Ferdinando Francesco d'Avalos), trans. Ludovico Domenichi, ed. Costantino Panigada, Bari, 1931, bk. II, chap. 5, pp. 287-296; cf. Chas. Oman, *Art of War in the Sixteenth Century*, New York, 1937, pp. 172-185; *New Camb. Mod. History*, ed. G. R. Elton, II (Cambridge, 1965), 341-342, 497-498; and in general Brandi, *Emperor Charles V*, pp. 154-166, 202-203.

<sup>215</sup> Guicciardini, *Storia d'Italia*, XV, 14-15, ed. Florence, Salani, 1963, III, 513-530; Martin du Bellay, *Mémoires*, bk. II, ed. M. Petitot, *Collection complète des mémoires*, XVII (Paris, 1821), 484-490, and eds. Bourrilly and Vindry, I, 352-358; Paolo Giovio, *Vita del Marchese di Pescara*, trans. L. Domenichi, bk. VI,

entire ambassador that he hoped Pavia would now mean the establishment of universal peace in Europe and a large-scale expedition against the Turks, against whom one should celebrate victory rather than against Christians.<sup>216</sup>

A year's imprisonment in Spain forced Francis to accept the treaty of Madrid by which he gave up his claims to the duchy of Milan and the kingdom of Naples; Charles required also the cession of the old duchy of Burgundy (on paper at least) before Francis could regain his freedom. If surrender of French pretensions to rule in Italy, most costly to try to put into effect, was entirely reasonable, the same could hardly be said for the relinquishment of Burgundy, which was of course never done (and Charles gave up his own claim thereto in 1529). But the struggle of Valois and Hapsburg was just beginning. Four times in the twenty-five years following the treaty of Madrid the French renewed the war with Charles when, on each occasion, it was believed that the emperor's engagement with either the Turks or the Protestants was so severe that he could not protect his Italian possessions or the Rhineland. Although this became a consistent French policy only after Madrid, the imperial ambassador in Rome, Juan Manuel, could write his master Charles as early as 26 May, 1522, that he was fully persuaded the French as well as the Venetians were supplying the Turk with information and telling him that, while Charles was in the distant west, was the opportune time to attack Italy.<sup>217</sup> If Manuel's suspicions were untrue, obviously they were not inconceivable.

chaps. 2-4, pp. 413-438; Oman, *Art of War in the Sixteenth Century* (1937), pp. 186-207. Cf. Martin Luther's letter to George Spalatin dated at Wittenberg on 11 March, 1525, in *D. Martin Luthers Werke: Kritische Gesamtausgabe* (Weimar, Böhlau, 1883 ff.), *Briefwechsel*, III (1933), no. 840, pp. 452-453, on Francis's defeat and capture. On the affairs of Charles V just before and after the battle of Pavia, note Brandi, *Emperor Charles V*, pp. 213-236.

<sup>216</sup> Cf. A. Virgili, "Otto giorni avanti alla battaglia di Pavia," *Archivio storico italiano*, 5th ser., IV (1889), 174-189, and "Dopo la battaglia di Pavia, Marzo-Giugno 1525," *ibid.*, VI (1890), 247-266, esp. pp. 253-254, for Charles's remark to the Florentine ambassador.

<sup>217</sup> G. A. Bergenroth, ed., *Calendar of . . . State Papers . . . , Spain*, II (London, 1866), no. 417, p. 424. Charles V left the Netherlands on 26 May, 1522, remained in England until 6 July, and reached Santander on the sixteenth: the Turks and the Lutherans were his major concerns at this time (see Adolf Wrede, *Deutsche Reichstagsakten unter Kaiser Karl V.*, III [Gotha, 1901, repr. Göttingen, 1963], 215 ff., 226 ff.).

## UFO'S I HAVE LOVED AND LOST

E. U. CONDON

Professor of Physics, University of Colorado

(Read April 26, 1969)

OUR PROGRAM COMMITTEE suggested that the members might like a brief account of my experiences in conducting a study of Unidentified Flying Objects, from late 1966 to the summer of 1968, at the request of the U. S. Air Force. The full report has been published under the title, *Scientific Study of Unidentified Flying Objects*, in paperback by Bantam Books, and in hardback by E. P. Dutton and Co.

Throughout human history men have been seeing strange and terrifying apparitions in the sky. The literature dealing with such experiences is enormous. The word "spectre" is used generically to describe phenomena of this type. This word's earliest use cited in the *Oxford English Dictionary* is in the title of a book by Z. Jones published in 1605 *A Treatise of Specters or straunge Sights, Visions and Apparitions appearing sensibly unto men*. The word "spectrum" is cited first in 1611 in a passage which said, "Walsingham hath written of a fatal Spectrum or Apparition . . . where sundry monsters of diuers colours . . . were seen." Sixty years later, Isaac Newton used this word to describe his decomposition of sunlight with a glass prism in these words, "The Sunbeams . . . passing through a glass prism to the opposite Wall, exhibited there a Spectrum of diuers colours."

From these two uses of the word *spectrum* come naturally the two meanings which the *OED* gives for the word "spectrology" which are: (1) the science or study of spectres, and (2) the scientific study of spectra. The *OED* cites as an example of the first meaning an 1820 quotation from Washington Irving's *Sketchbook*: "The gloom of religious abstraction, and the wildness of their situation . . . had filled their imaginations with the frightful chimeras of witchcraft and spectrology." And of the second, an 1862 quotation from the *American Journal of Science*, "The attention of the French scientific world is wholly fixed on spectrology, for thus do they designate the experiment with the spectroscope of Bunsen and Kirchhoff."

I am the second man in human history to have written a book on spectrology in both of these two distinct meanings—our distinguished colleague Donald Menzel was the first.

Modern interest in UFO's stems mainly from the observations of Kenneth Arnold, a Boise, Idaho, businessman on June 24, 1947. Flying near Mount Rainier in Washington he reported seeing some objects skimming along which he described in a manner that led newspapermen to call them "flying saucers." Although not all objects later reported are saucer-shaped, this term is often used generically, but the term UFO is preferable. The Air Force studies anything seen flying in the sky which might present a defense hazard, and so the Air Force has been concerned with the thousands of reports of sightings of UFO's that have come to them in the nearly twenty-two years since this first modern report.

From such study they concluded long ago that no defense problem was involved in these reports from the public. The amount of attention which the Air Force gave to the problem after the first four or five years has been minimal.

In the early fifties the story of UFO's began to appear in sensational pseudo-science magazine articles and paperback books. These have had a large sale. The book by Frank Edwards, *Flying Saucers—Serious Business*, probably holds the record with more than 1,300,000 copies sold. Several other titles have sold more than 200,000 copies. Our report was given an initial printing of 200,000 copies in the Bantam edition. In the last three years 40,000 schoolchildren have written the Air Force asking for UFO data.

The principal source of the widespread interest is the contention of some writers that at least some of the things seen may represent flying craft from other civilizations, either elsewhere in the solar system, or even from a planetary system associated with some other star.

We must be extremely careful about our language. Some UFO's may be such visitors, it may be postulated, and some writers go so far as to

say that they *actually are*. To discover clear, unambiguous evidence on this point would be a scientific discovery of the first magnitude, one which I would be quite happy to make. We found no such evidence, and so state in our report. But it is not true to say that we "proved that flying saucers do not come from outer space." All that can be said is that, of the cases we looked into carefully, we found no evidence in support of the hypothesis of their extraterrestrial origin.

We concluded that it is not worth while to carry on a continuing study of UFO's in the manner which has been done thus far: that of going out into the field to interview persons who say they have seen something peculiar. The difficulty about using objective means of study lies in the rarity of the apparitions, their short duration, and the tendency of observers not to report their experience until long after it has ended. When a known object is the source of many reports, as in the case of the Zond IV re-entry of 3 March, 1968 (see *Scientific Study of Unidentified Flying Objects*, pp. 571-581), there is an extraordinary disagreement among the descriptions of what was seen by different observers of the same event. This result shows that no great certainty attaches to the specific details of any of the reports.

These difficulties led us to conclude that it is quite unproductive of results of scientific value to study UFO's in the traditional manner. But, contrary to popular belief, we do not rule out all future study. We say (p. 2):

Although we conclude after nearly two years of intensive study, that we do not see any fruitful lines of advance from the study of UFO reports, we believe that any scientist with adequate training and credentials who does come up with a clearly defined, specific proposal for study should be supported.

This conclusion has been bitterly denounced by the flying-saucer buffs who have been making money from sensational writing and lecturing to gullible audiences, and collecting dues from the membership of their pseudo-science organizations. One prominent professor of atmospheric physics has been giving speeches in which he advocates that the federal government spend on UFO study amounts of money which would "dwarf" that spent on the space program.

Even though nearly a year has gone by since my work in this field ended, I continue to be astonished at the fervor with which many people hold views that are totally unsupported by objective evidence of any kind. Many people seem

quite incapable of recognizing any distinction between what *might be* so and what *actually is* so. Some of the believers are charlatans, in my opinion, who profess belief in order to collect royalties from writing and fees from lecturing. But others are deeply sincere.

We ran into many more interesting cases than we could include in the report, already criticized by many for being too thick. There was a young airman, second class, at an Air Force base in New Mexico whose nineteen-year-old wife died suddenly of a heart attack. They were members of a flying-saucer cult which gathered round and decided that the woman's spirit had gone to Venus on a flying saucer, and that she would want her body back when she returned. So they wrapped it in a sheet and stored it in a barn rather than having it properly buried. The police learned of this by a mysterious postcard from a woman in Spokane, Washington. At first they thought the card was a hoax, but investigation proved that the young woman's body had been by this time stored in that barn for about three weeks. The young airman had seen lots of flying saucers but had not reported any of them, saying: "I didn't know the Air Force was interested!"

In the spring of 1967 I was visited several times by a well-mannered man who claimed to be acting as agent for the Third Universe (we are the First, and the Second is inhabited by beings that resemble polar bears, he said). He said he was authorized to negotiate a contract with the United States Government by which they would teach us to make interstellar flying saucers for \$3 billion. The first billion was to be paid after a demonstration to government officials at Dulles Airport, the second after a major national laboratory had been built and our scientists and technologists had learned how to make flying saucers, and the third after they had trained our flight crews in interstellar navigation. He was specific down to the point of naming the bank in Arlington, Virginia, where the three billion was to be deposited.

He wanted me, in the interim, to pay him \$3,000 as "earnest money" to be deposited in a particular bank in Western Colorado to the account of his organization, which was called the "Omnific Intelligence Continuum." Inquiry to that bank revealed that there really was such an account. Asked the size of the account the banker cautiously said, "Small sums go in and out." Asked about membership of the organization the



banker told me, "So far as I know Mr. Xxxx is the only member." Since part of Mr. Xxxx's story is thus verified, ought we now to believe everything he tells us?

Just to play bureaucratically safe, a full account of this proposition was written up and transmitted to the Air Force and to the Office of Science and Technology. So far as I know, it was never followed up by further contact with this man, nor did he come to see me again. Therefore, I do not know whether he could have delivered on his end of such a bargain if one had been made.

The most vivid lesson that I learned from such experiences is what a narrow, wobbly line there is between real science and pseudo-science. So far as the public is concerned most of the science which they know about they do not understand. Very few people can state clearly the grounds for belief that the earth goes around the sun, rather than *vice versa*, or for that matter, for our belief that the earth is a ball rather than flat. Coming to more modern instances, who among the many investors in the profitable semi-conductor industries have the slightest idea how a transistor really works?

In the given circumstances most of the scientific ideas that are accepted by the public are accepted entirely on faith. To most people, completely lacking any basic understanding of underlying principles, the proposition that the configuration of the planets and stars at the time of our birth determines the course of events in our lives, seems no more unlikely or preposterous than many of the well-established truths of science which they do accept without understanding them. There are some 10,000 astrologers in America who make their living practicing astrology and only about 2,000 astronomers who live by practicing astronomy. If celestial matters were decided democratically by the members of both professions lumped together, then the "real" astronomers would always end up as a depressed minority.

Flying saucers and astrology are not the only pseudo-sciences which have a considerable following among us. There used to be spiritualism; there continues to be extrasensory perception, and psychokinesis, and a host of others. Hanson W. Baldwin in the *New York Times* has told how the Marines at Camp Pendleton are trained for Viet Nam in the use of dowsers made of bent wire coathangers as a means of locating tunnels and other underground works of the Vietcong.

Recently a visitor from a navy research in-

stallation told me that some admirals had purchased from an inventor a wholly worthless invention which it was claimed could detect submerged submarines by a radarlike reflection of electromagnetic waves. This could not possibly work because of the conductivity of seawater, and it did not work when expensively tested. A test had to be made to satisfy the admirals and certain congressmen. (During World War II, the National Bureau of Standards at the insistence of several congressmen, tested a crackpot scheme for making rubber from garbage.) A Russian spy in this navy laboratory got hold of the invention and our test results and sent them to Russia. The Russians did more work on the invention. Although they understood at once that it must be foolish, they thought they might be wrong because the Americans had spent so much time and money studying this crackpot invention. We know that they did, because an American spy in their laboratory sent to us the story of their work.

These and many other examples that could be given show that we have failed rather miserably to give even to so-called educated people some feeling for the way in which science investigates a subject, and the way in which scientists subject their observational material to critical evaluation before reaching conclusions. The thing that most people are least able to do is to refrain from drawing conclusions when there is not enough evidence at hand to warrant drawing conclusions.

In ancient times, the future was foretold in many ways that have gone out of favor, such as by examining the entrails of sacrificed animals, or basing omens on the study of the flight of flocks of birds. Cicero practiced this latter method. Before you smile, bear in mind that these views have never really had as much scientific study as have the UFO reports. Perhaps we need a National Magic Agency to make a large and expensive study of *all* these matters, including the future scientific study of UFO's, if any.

In conclusion, let me say that where corruption of children's minds is at stake, I do not believe in freedom of the press or freedom of speech. In my view, publishers who publish or teachers who teach any of the pseudo-sciences as established truth should, on being found guilty, be publicly horsewhipped, and forever banned from further activity in these usually honorable professions. Truth and children's minds are too precious for us to allow them to be abused by charlatans.

## DESIGNING A TWELVE METER YACHT

OLIN J. STEPHENS, II

Naval Architect, Sparkman & Stephens, New York

(Read April 26, 1969)

THE DESIGN of a Twelve Meter yacht is a highly specialized activity, which has had a great fascination for me. Fascination must be a subjective affair. Whether the alternating belief, that this activity is completely useless, has an objective or subjective basis, shall be left unexplored. I shall simply try to outline the nature of the work, as a branch of yacht design, not free from many difficult questions but having a purpose which is very clear, namely, to design a sailing yacht subject to the restrictions of the class, which can sail around a certain course more rapidly than other boats of the same class. A lot of time, effort and money are spent from time to time in the effort to achieve that end.

As it has to do with a highly publicized international contest, most of you will know something of the background of the America's Cup and the series of matches in which the New York Yacht Club has remained successful in defending a piece of silverware first won in England by the schooner yacht, *America*, in 1853. The four matches since 1958 have been sailed by yachts known as "Twelve Meters"; hence the pressure on that class.

The term "Twelve Meter" refers to the rating of the boat, found by taking a series of measurements which are entered into a very simple formula,<sup>1</sup> in which the result must not exceed twelve meters, or 39.37 feet. The formula provides some flexibility in defining the dimensions which the designer must use; however, there are also a number of limits applying to the form and the structure. The yachts which result are all about the same size, although they have gradually become larger over the years while carrying less sail area, and to the layman I am sure that they look a great deal alike. To the sailor each boat

seems to have its own character. There has been a small but steady improvement in speed, possibly to the extent of 4 per cent since 1958. Although this may seem a poor return on the time and money spent to find it, a difference of six minutes in a race of 2½ hours, provides not only a generous winning margin, but a fairly safe one, other things being equal. While such equality seldom occurs, it must be assumed in considering questions of design.

I designed my first Twelves for racing in 1938 and 1939. Then there was an interval due to the war, before which time yachts of the "J" Class had been used for America's Cup racing. They were between 80 and 90 feet long on the waterline and up to 135 feet overall, displacing up to 160 tons. The wartime and postwar inflation led, when this racing was revived in 1958, to the adoption of the smaller Twelve Meter Class using a waterline length of a little more than 45 feet. Three new boats were built that year. One of these, *Columbia*, was designed by our firm, and for later matches in 1964 and 1967, we designed *Constellation* and *Intrepid*. Each of these was successful in achieving selection as the American defender, and in winning the following cup series in which English boats had challenged in 1958 and 1964, and an Australian in 1967. During this period of Twelve Meter racing for the America's Cup, four Twelves were worked out by other American designers. In 1962 one of these boats, *Weatherly*, built in 1958, was winner in the trials and beat the Australian yacht, *Gretel*, in the final series.

Most, though not all, of these boats have been owned by syndicates. The successful defenders have involved costs, for the new boat and a season of sailing, of about one million dollars. The tradition that surrounds the America's Cup in this country makes this seem worth while, and those who do not contribute financially, including the designers, not to mention builders, sailmakers, crew members, and others, contribute also through their effort.

<sup>1</sup> Rating in linear units, either feet or meters.

$$\frac{L + 2d + \sqrt{S} - F}{2.37},$$

where:  $L$  = Length in linear units,  $d$  = Girth difference in linear units,  $S$  = Sail area in square units,  $F$  = Freeboard in linear units.

How does the designer go about his part of the job? I am working at it now, with my fingers crossed, hoping for a winner in 1970.

The first phase is model testing. I was about to say that this is the most important in setting the form of the yacht, but on the other side almost every element is equally important because one real deficiency can ruin the effort on which so much depends. Thus, in 1967, we had an outstanding boat, *Intrepid*, with a perfect helmsman and a beautifully organized crew, but the loss of two masts in a single summer's sailing might have put us out of the competition if we had not found the cause of the trouble in the design of a spreader and the fitting which held it to the mast.

Now preparing for a campaign in 1970, we are testing models about five feet long in the testing tank of the Davidson Laboratory at the Stevens Institute in Hoboken. Stevens has been the principal yacht-testing organization since the late Kenneth Davidson during the 1930's developed reliable methods of testing models much smaller than those that had previously been used in the development of ship designs. Other tanks have been established, for example at Massachusetts Institute of Technology, but there the principal work is in research rather than proprietary testing.

These small models can be tested at angles of yaw, simulating leeway. Davidson also measured sail forces on a small sailing boat known as Gimcrack, and by applying aerodynamic analysis, these forces in coefficient form may be applied to the hull characteristics determined by model testing to predict the speed of a full-scale boat built like the model.

In this way, a designer may test his ideas, both radical and refined, at considerable cost, which is still far less than full scale tests. He thus uses a sort of sieve to separate the good ideas from the bad ones, and he may also employ more sophisticated analyses to study and improve the hydrodynamic characteristics of his models. The difference between the fair and the good can be small and rather hard to distinguish in the necessarily scattered trial data, but the worst models at least are easily spotted. Disappointment seems inevitable in this work, but can be accepted philosophically with the realization that, had the model not been tested, a poor boat would have been built.

The promising model is never the final answer. Some critics of model testing point out that the method is incomplete, referring to the various

questions which are left open, such as the hull's behavior in rough water or the uncertain relationship of the Gimcrack coefficients to the rig and sails of a modern boat. In my view, the very limitation of model testing may be found helpful in simplifying the analysis and eventual understanding of the separate characteristics. The designer must always remember the conditions under which the full-scale yacht will be sailed, so that he will not fall into the trap of assuming that the best predicted speed means the best boat. He must evaluate for himself the effects of differing stability, wetted area, weight distribution, and other variables. I have been asked a few times to take part in competitive model-testing, but with these difficulties in mind I have always refused.

Hull design methods derive from a combination of practical experience, some knowledge of ship design, and hydrodynamic theory, and a considerable portion of intuition, or guess work. Hull shapes, new or altered, can be checked in the tank. There are some fundamental principles hedged around with contradictory limitations. Compromise and balance are necessary.

For example, both length and sail area are factors contributing to speed, but in the Twelve Meter formula more of one means less of the other, so the problem is to find the best combination. It is not hard to realize why sail area, which provides the motive power, is valuable. It is much harder to understand why a large boat with a small rig will often beat one in which the proportions are reversed. Actually, this is largely because of the waves made by a hull moving on the surface of the water. The natural forces acting on the water surface result in the formation of a wave train, in which the successive wave crests become farther apart as the system moves faster. Resistance to the forward motion of the body, which depends on the difference between the sum of negative and positive forces distributed over the hull surface, is at first small, but grows rapidly as waves become important with increasing speed. First the bow wave develops because of increased pressure at the bow, accompanied by a growing hollow just forward of the stern. With increasing speed both wave and hollow become larger, and the successive crests of the bow-wave train move further aft. If we consider the effect of gradually increasing speed, as it affects the position of these crests and the intervening troughs, they will suc-

cessively fill and deepen the important after-hollow, causing the resistance curve to build up in a series of humps until the first trough following the bow wave coincides with the quarter-wave hollow, and the second bow crest is astern of the after overhang so that the boat is running uphill on its own bow wave. The speed at this time, which can only be exceeded under ideal conditions, is sometimes called "maximum hull speed," or just "hull speed." It occurs when a boat's speed in knots is equal to a little less than 1.4 times the square root of the waterline length in feet. The longer the boat, the greater her speed before reaching this condition, or any one of the intermediate hump areas. Thus, at least in the upper range of speeds, the longer boat will tend to sail faster than her shorter sister.

The driving power of the sails depends not only on their area, but on the ability of the hull to support the rig so that it can react to the force of this wind. The larger boat, which can be both heavier and beamier actually but not relative to its length, thus has a further advantage.

On the other side of the ledger are factors influencing low speed, or light-weather performance. Here, when neither power nor high-speed resistance is important, we have to consider sail area in its relation to hull surface in contact with the water, or wetted area. Sail area clearly is the source of driving power, while wetted area is the main source of hull drag at hull speeds too low to build up much wave-making resistance.

Thus, in approaching a new design, we look at the sail area to wetted area ratio as a guide to light-weather performance, and try to provide at the same time the best possible sail-carrying power. Because these two parameters are directly opposed, every boat represents a compromise, but the study of these fundamentals applied to a particular design may well serve as a guide to improvement.

From the towing tank we receive not only measurements of resistance, but the opportunity to see the actual wave formation with the hull upright and heeled. Often study will suggest changes which can flatten the wave pattern or reduce disturbance in some other way. The distribution of displacement, as illustrated by a curve of sectional areas along the length of the boat is often critical, and recently it has appeared that the distribution of displacement into the after-body, which is, at the same time, deepened, may

be quite advantageous over a range of speeds. Generally, it has been accepted that some degree of concentration of displacement amidships, with correspondingly sharp or fine ends, has been favorable to low resistance at moderate speeds, while greater distribution into the ends has been better at high speeds. The relative concentration of displacement can be described quantitatively by the value of the prismatic coefficient.<sup>2</sup>

The importance of wetted area in generating resistance has been recognized for many years, but only recently have yacht designers carried so far their search for low wetted-area forms. Possibly this is because the growth in length and displacement, accompanied according to rule requirements by reduced sail area, has made a small wetted area an absolute necessity in maintaining a useful sail area/wetted area ratio.

The short keel came as the answer. This worked quite well on such a Twelve as *Constellation*, but such long-lined boats are easily steered, while other types such as the 5.5 meter boats, among the first modern boats designed with very short keels, were sometimes almost unmanageable. In response, rudders were removed from the traditional place on the trailing edge of the keel and placed at the very after end of the waterline. This profile, which was popular some seventy years ago and has ever since been generally followed in model yachts, seems again to combine the advantages of low wetted area and steering power. *Intrepid* was the first Twelve Meter to use this form.

Accompanying the small keel area, there has been a tendency toward increased leeway, which has been countered in two ways—the use of the poorly named "trim tab," or high-lift device on the trailing edge of the keel, and the use of a wider sailing angle to the wind, which by producing higher speed also increases resistance to leeway. Even if she does not point quite as high as her older sister, a good up-to-date boat seems to retain an excellent windward potential. Probably such hulls must be designed so that their most efficient performance will occur at slightly higher speeds than the earlier boats, and it appears that recent boats have gained a wider efficient

<sup>2</sup> The prismatic coefficient is the ratio between the volume of displacement and the volume of a prismatic solid the same length on the waterline as the yacht, and having a constant cross section equal in area to the immersed midship section.

speed range than the best older boats. This is because the low wetted area helps, particularly at low speeds, while the displacement distribution can be provided for higher speeds in strong winds to windward without pointing too high, and also for running and reaching.

Coupled to these general considerations are matters of refinement which are often suggested by theory, but which must be verified by test.

My own limited technical background, coupled with necessary limitations on time and money, have restricted the depth of analysis that I have been able to apply to such refinements in hull design. Younger colleagues and successors will surely make more use of the computer in analyzing such an important phenomenon as pressure distribution on the hull surface, and possibly they will give more study to the relative effects of various hull parameters by regression analysis. My experience with such methods has not gone as far as I could wish, but I think we are very close to the time when we shall be able to calculate the performance of a sailing yacht of assumed dimensions so as to show predicted performance on a polar diagram. The intuitive approach will play a changing role.

A lot of time goes into the design of Twelve Meter hardware. Masts are somewhat standardized by rule requirements, but many fittings are very carefully worked out. Twelve Meter practice has led to many new applications in other boats, especially in deck equipment. The "coffee grinder" winches for trimming the genoa jibs have been greatly developed in the last few years. These are not usually detailed by the yacht designer, but he must take care of the layout and specifications, consulting with specialized winch builders and leading crew members. A deck arrangement which permits efficient handling is one of the most important design elements.

Spars, rigging, and fittings often employ special materials, such as titanium, aluminum alloy, and high tensile steels which save weight, mainly so as to increase stability through adding to the amount of lead ballast on the keel without using more displacement than the rule demands. Occasionally applications are completely new. Probably more often the publicity which a good Twelve receives leads to general adoption of a new idea in less publicized classes, where it may have first been tried without attracting attention. New ideas are often in the wind. The Twelve Meter can

become the showcase, and the America's Cup provides a test like one of the big automobile races at LeMans or Indianapolis.

In hull structure Twelve Meters are conventionally built of wood, as required by the present rules. Care and skill are needed by the builders to combine lightness, strength, accuracy of form, and smoothness of surface. Craftsmen capable of the right kind of work are becoming very scarce. Being relatively simple, the hull can normally be built in about six months' time. The manufacture of the more complicated pieces of equipment is often started before the hull.

The design of a Twelve Meter is seldom an individual undertaking, although the number of drawings and the time required to prepare them will depend a great deal on the needs of the builder and on the extent of outside help in the design of spars and fittings. *Constellation* and *Intrepid* each required about 10,000 hours of design and drafting time, and about one hundred drawings of all kinds. These include drawing the lines for seven or eight models, and a total of over thirty model alterations. In our office, we find a project leader essential. It is his function to coordinate the various sources of information and supply, with a view to having the bits and pieces where and when they are needed. Thirty years ago, this was the job of the builder, but present-day specialization has taken it out of his hands.

I think it is fair to say that, if the field is specialized, still the talents that the designer of a Twelve must bring to his work cover a rather wide range. I think he must first be a practical sailor, although it is not likely that he would get into yacht design if he were not.

Despite all the help one can get in a reasonably organized office, the design of an important racing yacht is a demanding and time-consuming process, culminating in several months' constant attendance on the boat and crew when she is racing. For the America's Cup races, this means nearly three months at Newport, Rhode Island, after about six weeks on Long Island Sound. Before that, came many visits to the towing tank, then to the builder and the various equipment manufacturers, as well as conferences with the skipper and crew. This follow-through seems essential no matter how good the first concept may be. Tuning seems to be a constant process of adjustment, with alteration inevitable and normally useful, in which

each step has its technical facets and aspects affecting speed or reliability, which should be reviewed by the designer. Basically, his job is to encourage anything that may help, or seems more likely to help than harm, meanwhile discouraging the opposite.

This is probably the best guiding principle, and it explains the high cost. It is neither necessary, nor possible to know how much a new feature, or an alteration, major or minor, will affect speed; if for whatever reason the direction is promising, suitable action must follow. It is impossible to list the many small items that have provided large amounts of overtime to the workmen in the Newport shipyards.

This may seem an extravagant way to work. In essence, I am only saying that thoroughgoing attention to detail seems to pay. I have always

believed that success in yacht racing was more likely to come through the accumulation of many small advances than from one big feature.

The effort must be complete. There can be no gaps. The hull will not go without the rig. The rig is the support for the sails, and through this rig the power is delivered to the hull. The deck gear in the hands of the crew controls and changes the sails to develop their full potential. The helmsman's touch is vital, and the whole effort depends on his judgment.

The designer cannot expect to control all of these elements, but he can provide a ready instrument, and if he is on the spot, he may be able to provide a decisive influence at the right moment. He may or may not help, but with care it is more likely that he will do good than harm. This is always the hope.

## CRISES IN THE MINOAN-MYCENAEAN WORLD

JOHN L. CASKEY

Professor of Classical Archaeology, University of Cincinnati

(Read April 24, 1969)

THE MINOAN-MYCENAEAN world comprises the small area of the Aegean Sea and the lands along its shores, with some extensions eastward and southward, fewer to the west beyond the Ionian and Adriatic, very few to continental regions in the north. The floruit of this microcosm was in the second millennium B.C.

The lands had indeed been inhabited long before then, perhaps continuously, from Palaeolithic times onward; and in the third millennium there had appeared elements of civilized culture that are far from negligible. But around the year 2000 some remarkable changes took place, leading to a new era on the mainland, in Crete, and on the smaller islands of the Aegean. Minoan civilization was supreme throughout the first half of this era, being superseded then by that of the Peloponnese and central Greece, where development had been slower. Mycenae took the leading position and held it till the years around 1200. Thereafter a steep decline occurred, and only a few of the elements which had been characteristic of the great days survived.

Critical turning-points in the fortunes of the Aegean peoples are to be seen, then, at the beginning, near the middle, and toward the close of the millennium. We can discern a few others and must assume that there were many of which we cannot know, since local contemporary written records of the Minoan age are scanty and undeciphered, and those which are legible in Mycenaean Greek of the later centuries shed only a little light on the sequence of events. My purpose here is to review some of our present knowledge of the major crises and to describe certain bits of pertinent evidence that have come to light in excavations conducted by my university during the past decade on the Cycladic island of Keos.

### THE BEGINNING

Thanks first to Sir Arthur Evans in Crete and then largely to C. W. Blegen and A. J. B. Wace on the mainland, it is possible to distinguish three principal divisions of the Bronze Age in the

Aegean, corresponding roughly in date with the Old and Middle Kingdoms and the Empire in Egypt. The second is clearly different from the first. In Crete it is marked by the appearance of the great palaces, testimony to a centralized organization and a concentration of wealth which had not existed before. In Greece proper it brought equally real though less spectacular changes: elements of a new population with ways of life, technology, and customs unlike those of the Early Bronze Age. In the Cyclades also, where we have not so much solid evidence, it seems certain that parallel changes happened.

The transition from the Early to the Middle Minoan period calls for a great deal of new investigation. Evans drew the dividing line, chiefly on the basis of ceramic styles, and his analysis has been accepted and repeated generally. It was obvious to him and others, however, that many pots assigned to Middle Minoan I were not very different from those of Early Minoan III, and that the two types were sometimes found together in tombs and in the few settlements where both occurred. Nowhere is a clear stratigraphical distinction known to us. At present it is accepted as probable that pots of the first Middle Minoan style, M.M.IA, at Knossos were contemporary with some of the E.M.III products of eastern Crete. Careful excavation of a site with habitations that spanned this period might clarify the facts.

If a stratified site of that kind can be found, one hopes that it may prove also to have intact layers belonging to the next earlier and next later phases, E.M.II and M.M.II. Until recently only one place, Vasiliki, had yielded a considerable body of remains from E.M.II. In 1967 and 1968 another well-buried town of that period, near Myrtos on the south coast, has been excavated by English archaeologists with rich results.<sup>1</sup> Both places

<sup>1</sup> P. Warren, "A Textile Town—4500 Years Ago?" *Illustrated London News*, Feb. 17, 1968: pp. 25-27. "Minoan Village on Crete," *ibid.* Feb. 8, 1969: pp. 26-27.

were destroyed by fire. Vasiliki was sparsely reoccupied after E.M.II, Myrtos apparently not at all. Broad conclusions must not be drawn from slender evidence, but these two sites suggest a parallel with parts of the mainland where destruction of numerous settlements by fire in E.H.II is attested. It might be useful now to question the accepted doctrine of uninterrupted development from Early to Middle Minoan, and to ask hypothetically whether an ascertainable change may not have taken place at the end of E.M.II.

Ultimately, of course, one wants to know why and how, as well as when, changes of this sort came about. At present we have not enough information; the immediate task is to collect and present more of it, first of all by traditional archaeological methods, but in the end I suspect that these alone will not suffice. We shall need a coordinated collaboration of specialists in the physical and biological sciences.

On the mainland the course of events appears to have been different from that in Crete. Almost certainly the Middle Helladic period began with the arrival of new people from abroad. Elsewhere I have tried to show that they were probably related, somehow, to migrants who had come to certain parts of Greece before them and had destroyed towns of the major Early Helladic culture which is called E.H.II.<sup>2</sup> That problem aside, however, the important fact is that Middle Helladic settlements spread rapidly over much of the country. Their sites are readily recognized by the presence of pottery named Minyan ware and of intramural burials. The people were, or became, farmers; sturdy no doubt, somewhat stolid, slow to develop. Their towns and villages were large and generally unwallled, an implication that the inhabitants were not in fear of attack.

Whence and why they came to Greece is not known, though theories and speculations abound. Archaeological historians appeal sometimes to otherwise undocumented migrations and invasions in order to explain the phenomena that they observe in their excavations. In the present instance we have an especially strong motive, namely our curiosity, both rational and emotional, about the origin of the Greek people. Without reviewing that vexed problem and the many arguments, we may have in mind that analysis of linguistic de-



FIG. 1. Promontory of Ayia Irini and the great harbor, Keos, from the east.

velopment and interpretation of archaeological evidence have converged to indicate that Greeks, or their early but direct ancestors—speaking a language that was, or was about to become, Greek—reached the mainland at the time which we are considering. To me this general conclusion seems convincing; those who disagree, and set the coming of the Greeks at an earlier or later time in the Bronze Age, are obliged to ignore too many of the factors.

What happened in the Cyclades and other Aegean islands around the turn of the millennium is less evident. Up to now information has come chiefly from four sites: Phylakopi in Melos, excavated in 1896–1899 and 1911; a settlement beneath the modern town of Paroikia in Paros (1915); another at Ayia Irini in Keos, under investigation since 1960; and one near Akrotiri in Thera, where new excavations began in 1967. Knowledge gained from the first two, exceedingly valuable in early stages of the research, is insufficient for further progress today. Keos promises a useful body of facts when the materials found have been thoroughly analyzed. Thera is at the center of another critical problem, to which I shall refer presently, but as yet seems not to throw light upon the origins of the Middle Bronze Age. Nor have the non-Cycladic islands of Kythera in the west and Samos in the east furnished many clues to the solution of this problem.

At Ayia Irini (figs. 1, 2) a few pertinent facts have emerged.<sup>3</sup> Since the beginning of our work there it has been known that the main period of

<sup>2</sup> "The Early Helladic Period in the Argolid," *Hesperia* 29 (1960): pp. 285–303. *Cambridge Ancient History* (rev. ed., fasc. 24, Cambridge, 1964), pp. 18–20.

<sup>3</sup> J. L. Caskey, "Excavations in Keos," *Hesperia* 31 (1962): pp. 263–283; 33 (1964): pp. 314–335; 35 (1966): pp. 363–376.



occupation was in the early part of the Late Bronze Age, presumably the sixteenth and fifteenth centuries, but that the site had been inhabited long before. There are remains of un-

burnt houses with pottery of Early Helladic II, and many more with that of Middle Helladic and Middle Cycladic types. In northeastern Peloponnese and in Attica, Boeotia, and Euboea (all

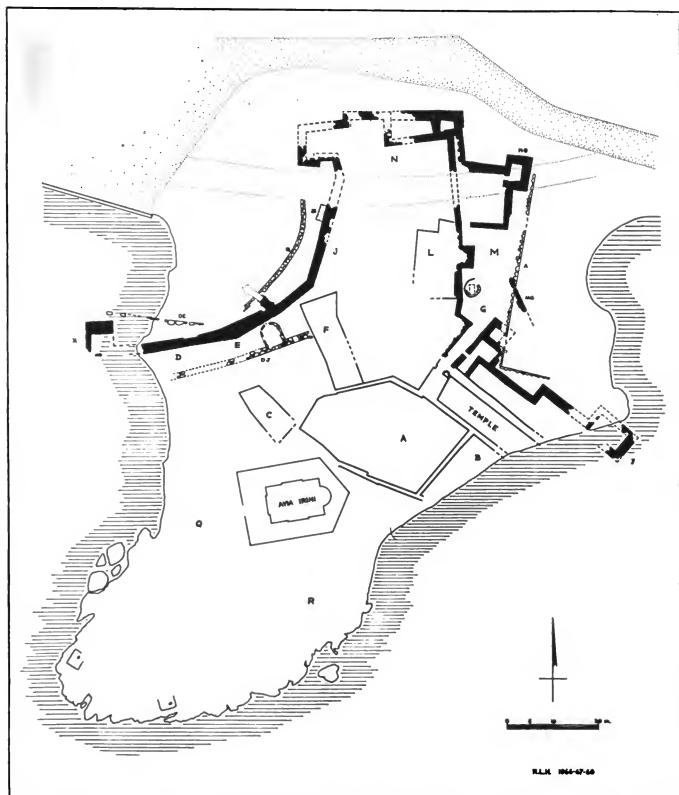


FIG. 2. Plan of the settlement at Ayia Irini.



FIG. 3. Black jug or tankard (Inv. K.3592); height 0.152 m. Early Bronze Age.

within sight of Keos in good weather) certain wares that are known to be characteristic of the intervening period, Early Helladic III,<sup>4</sup> have been found at many places, but none of these have come to light in our excavation. There are indeed a few examples of another class of pots, reminiscent of Anatolian types, which may prove to belong to that time (figs. 3, 4). Pieces like them occur at Lefkandi on the Euripos and have been assigned by the excavators to a penultimate phase of E.H.III,<sup>5</sup> but at Ayia Irini they have not yet been discovered unmixed in a well-stratified sequence. The possibility that they were contemporary with, or even earlier than, the sauceboats of E.H.II cannot be wholly excluded. Thus we are still unable to offer much positive information about the end of the Early Bronze Age on this island.

A striking fact discovered in the campaign of 1968 is that the town at Ayia Irini was fortified soon after the transition of the Middle Bronze Age. The site occupies a small promontory, and the later wall which closed it off on the landward end has been known for some time. Exploration



FIG. 4. Red shallow bowl (Inv. K.3654); diameter ca. 0.22 m. Early Bronze Age.

within this conspicuous later circuit led us, largely by chance, to a massive round-ended tower which projects northward from a nearly straight wall, DJ (fig. 5). Near the tower is a gateway in the wall, so placed as to give access to an ancient source of fresh water. One may guess that this line of fortifications ran all the way across the peninsula from east to west, though only a segment of it, about 100 feet long, has been exposed. Strata of debris that accumulated against it contain potsherds of fine Middle Cycladic burnished wares, Middle Helladic gray Minyan ware from the mainland, and Middle Minoan Kamares ware of the early palace period (M.M.IIA) in Crete.

It is evident therefore that active and enterprising people were established here in an early phase of the Middle Bronze Age, presumably not later than the eighteenth century B.C., and that through maritime commerce they had amassed enough wealth to feel the need of protecting themselves and their possessions against marauders. One may imagine that many of the able-bodied men were at sea for long periods and that the wall was built especially to safeguard the more vulnerable members of the community who stayed at home.



FIG. 5. Wall DJ, gateway, and projecting tower, partly covered by later buildings, from the southeast.

<sup>4</sup> *Idem*, "Houses of the Fourth Settlement at Lerna," *Charisterion Orlandos* 3 (Athens, 1966), pp. 144-152.

<sup>5</sup> M. R. Popham and L. H. Sackett (eds.), *Excavations at Lefkandi, Euboea, 1964-66* (London, 1968), pp. 6-8, fig. 7, nos. 7 and 8.

Of Macedonia and Thrace on the northern borders of the Aegean little can be said at present, excavation of Middle Bronze Age sites having been inadequate. Gray Minyan pottery is found at Molyvopyrgo and other coastal sites in Chalcidice, all easily accessible to mariners, but it is not clear how, or whether, this region was affected by the new surge of life in the south. Relatively big tracts of arable land and a colder, more nearly continental, climate may account for certain differences. Local customs may not have changed very much at this time from those of the Early Bronze Age. On the other hand, there are bits of archaeological evidence which indicate traffic between the Aegean and the Balkans, types of stone implements and a class of small handmade pots with northern connections having reached the Peloponnese,<sup>6</sup> and one would like to know more about the routes of communication. There has been speculation that the Middle Helladic people, Greeks or forerunners of Greeks, came down into the peninsula from the north, but the theory as yet is unsupported by tangible evidence.

Another theory brings these people from Asia Minor to the Aegean, but again the archaeological data have failed us for the most part, up to now, along the Anatolian coast. Connections are seen most clearly in the Troad. A new people arrived at Troy early in the second millennium, bringing a new technology and probably a new spirit to the old conservative place. This was the Sixth Settlement. In its earliest strata of habitation deposits, representing what we call Phase VIa, there are for the first time at Troy bones of horses, abundant pieces of Minyan pottery, and at least a trace of domestic architecture on a new plan. These are signs of a major change, but the date when it occurred is not easy to determine absolutely. Few early houses of Troy VI have survived, and the distinctions between Phases VIa, VIb, and VIc, as observed in the excavations of the 1930's, are somewhat tenuous. A handful of Matt-painted sherds appeared in Strata VIb and VIc; the first Mycenaean ware (L.H.I) in VIId. Blegen hesitated to assign many centuries to the slender remains of the first three phases, and prudently suggested a date around 1800 B.C. (though with considerable leeway) for the beginning of the Sixth

Settlement.<sup>7</sup> After subsequent studies in Greece I am inclined to think that the Middle Helladic period began there a little earlier, probably in the twentieth century. If both guesses should be substantiated in the future by other researches, then the idea that Troy was a station for easterners moving toward Greece would have to be abandoned; rather, it might then appear that the bearers of Minyan ware reached Troy from the west. The progress of the domesticated horse still remains uncertain; at Lerna in the Argolid, the only site in southern Greece where osteological analysis has been made in detail, a few bones of the animal appear for the first time in the middle and later phases of the Middle Helladic period, not at the beginning.<sup>8</sup> Thus the whole question remains suspended, and for the moment Blegen's surmise that people of the same stock and culture reached Troy and the Greek mainland about the same time is more readily acceptable than any other.

#### CRETE AND MYCENAE

Human life and society blossomed in Crete and had centers at the palaces, where, as many have remarked, elegance and delicacy reached levels that had been quite unknown before and were scarcely to be seen again in Europe for three thousand years. Most of us when we stand at Knossos are struck first by these qualities, being almost wholly unprepared for their impact, and so powerful is the impression that we are momentarily blinded to facts which must lie behind. Apart from their extraordinary energy and perception the Minoans had a firm sense of organization and much practical ability in the application of power both economic and military. G. L. Huxley nicely warns us "against any facile contrasting of allegedly feminine peaceful Minoans with masculine bellicose Mycenaeans. Europa," he says, "like Britannia, kept the peace with her fleet; but there is no evidence that either lady in ruling the waves was inclined to pacificism."<sup>9</sup>

Memory of the thalassocracy of Minos persisted to the time of Thucydides, who let his readers observe a parallel between the Minoan state and the

<sup>7</sup> C. W. Blegen, *Troy 3* (Princeton, 1953), p. 19. *Idem*, *Troy and the Trojans* (London and New York, 1963), p. 142.

<sup>8</sup> N.-G. Gejvall, *Lerna, 1, The Fauna* (in press, Princeton, 1969).

<sup>9</sup> G. L. Huxley, *Minoans in Greek Sources*, a lecture (Belfast, 1968), pp. 9-10.

<sup>6</sup> J. L. Caskey, "Excavations at Lerna, 1956," *Hesperia* 26 (1957): pp. 150-151, pl. 40, d, f.

Athens of his own day: national power depended upon the possession of capital, which could be accumulated and maintained, in a land like Greece, only through command of the sea. Minos was the first to form a navy. With it he put down piracy, confirmed his sway in the Aegean, and established settlements on most of the Cycladic islands, where he appointed his sons to govern. Minos was a prolific progenitor, and there are indeed a number of places on the islands where Cretan influence is discernible in the remains. We have of course no direct information about the manner of political administration. In the words of the historian, Minos was the first *oikistes*, and our translations often put it that he founded colonies. I suspect that this may be in part a reflection of a nineteenth-century European outlook; for the Greek word can equally mean settler, without an inherent implication of mastery. In any case it seems to me probable that local populations in Melos, Paros, and Keos continued to thrive, independently holding to many of their own Cycladic ways, in spite of strong Minoan influences.

Let us look at the state of things at Ayia Irini in Keos (fig. 2). As reported above, there had been a prosperous town with a wall of defense in the early part of the Middle Bronze Age. At the end, in the time of Middle Minoan III, a new wall was built, more elaborate in form and taking in a much larger area, covering even some parts of a not unimportant cemetery of the preceding period. In the earlier phase there had been real but very limited connections with Crete; those with the Middle Helladic mainland were stronger. Now,



FIG. 7. Jug (Inv. K.3594); height preserved 0.26 m.  
Imported Late Minoan IB.

however, one feels the effect of Minoan power, and this, if any, was the time of the thalassocracy: pirates were driven out, maritime trade expanded and, if it still seemed prudent to fortify the outposts, increasing self-confidence soon made the walls a symbol rather than a necessity.

The town grew apace. We have not many undamaged remains of the first houses since they were remodeled, in some cases possibly after minor earthquakes, and replaced by more elaborate buildings in the time of Late Minoan I and Late Helladic I-II. The best of these had extensive basement rooms underground for the storage of goods, and in the debris which ultimately fell into them we find bits of gaily painted frescoes from the upper storeys along with a great array of broken pots and other objects. The pottery is revealing: some of it was imported from Crete (figs. 6, 7) and other islands, but much also from the mainland; as is normal, the greatest quantity was locally made. From the early and late phases of the period came small but significant bits of pots and terracotta tablets with characters written in Linear-A script (fig. 8). Hundreds of spindle whorls and loomweights indicate that textiles were



FIG. 6. Cup (Inv. K.3362); height 0.104 m.  
Imported Late Minoan IB.



FIG. 8. Terracotta lamp (Inv. K.2484) with incised characters in Linear-A script; diameter 0.114 m.; handle missing. Probably made locally. Sixteenth century B.C.

produced in volume, and it is clear from the discovery of crucibles, molds, and raw materials that metals were worked here. Lead is particularly common, the ore having been brought perhaps from nearby Laurion or possibly mined somewhere in Keos itself. Among the most interesting objects are disks of lead in an extensive series of weights that is based on a standard unit of about 65 grams, obviously useful in the measuring of commodities at a commercial center (fig. 9).

Unique among the buildings at Ayia Irini, and up to now at any Bronze Age settlement in the Aegean area, is a large free-standing structure that served religious purposes.<sup>10</sup> Only a little over six meters wide, it is preserved to a length of nearly twenty-five meters; one end has been eaten away completely by the sea. The lower storey, partly underground in the sloping terrain, is divided into rooms and a corridor by partition walls. Clearly there was a second storey above, but no part of it has survived. Foundations of the walls run down far below the present water level, as is the case in other building on the promontory, showing that the relative levels of land and sea have changed greatly since ancient times. Our deepest soundings, excavated with constant

pumping, yield pottery of the Middle Bronze Age, contemporary no doubt with the older fortifications of the town, but the building was to be reconstructed at intervals and to remain in use through many centuries. That it was a temple is adequately proven by votive objects found in the debris, chief among them being a series of more than twenty large terracotta statues which stood on an upper floor in the main period of the settlement (fig. 10).

The temple and the rest of the town were destroyed suddenly by a catastrophe of nature, presumably an earthquake. This happened at a time when pottery of the styles called Late Minoan IB and Late Helladic II were in use; defining the latter more closely, some of the experts would note that most of the Mycenaean wares are to be classified as Late Helladic IIA but a few, including examples of Ephyraean goblets, belong to IIB. In absolute terms, the date was probably not far from 1450 B.C. Buildings fell, basement rooms were filled; but very little burning occurred and the inhabitants evidently were warned of the approaching danger in time to escape and to carry away some of their most valuable possessions.

On the mainland this period seems to have been prosperous. It had begun a century earlier with the splendor of the shaft graves in Late Helladic I and was to be followed by the era of the great fortresses and palaces a bit later. Architectural and artistic accomplishments of the intervening phase, Late Helladic II, are now seen chiefly in the royal tholos tombs and the simpler chamber tombs of the citizens, for most of the remains of houses were swept away, deliberately, we suppose, to make space and to supply stone

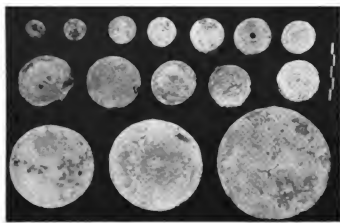


FIG. 9. Lead weights in shape of disks; scale at right = 5 cm. Early phases of Late Bronze Age.

<sup>10</sup> See reports cited in note 3, above.

for new buildings in Late Helladic III. Evidence of general catastrophic destruction at this juncture has not been observed on the mainland, and we assume that there was none, though it must be borne in mind that most of the evidence is from palaces, where cleaning away of debris was a regular practice, and that simpler towns and villages, where more casual rebuilding upon mounds of old ruins might leave a clearer stratigraphical record, are less well known to us through excavations.

Disasters did occur, however, in many parts of Crete. Why, and when, and in what sequence? If the answers were surely known it would prob-

ably not be difficult to reconstruct the main elements of this crisis in Aegean history.

At Phaistos and Ayia Triada in the south, and Gournia, Mallia, and Zakro in the east (to mention only the foremost), fires added in greater or lesser measure to the destruction; elsewhere, at Palaikastro, Nirou Khani, and Tylissos for example, there are few traces of burning in the ruins. The latest style of pottery present at all these sites is L.M.IB; on this fact the Minoan specialists are in general agreement. At Knossos, however, the problem is different. There alone the L.M.II ceramic phase had succeeded that of L.M.IB and had been followed in turn by L.M.IIIA. The palace was burnt and fell in a moment of disaster. Evans after his first excavations placed the event in L.M.III but soon revised his opinion, becoming convinced that the buildings, the Palace Style of pottery, the art of writing, and all the great achievements of Minoan civilization had ended together at the close of L.M.II, around 1400 B.C.

He believed that Knossos and all the other centers had been destroyed in a brief space of time by severe earthquakes, and that the difference in pottery sequences was to be explained by the assumption that the L.M.IB style continued without change everywhere else while L.M.II vases were being produced at the capital. Many people concurred, respecting Evans's tremendous authority, but others questioned his conclusion and proposed alternative explanations. According to one theory, Mycenaean rulers occupied Knossos after the rest of the island had been laid low around 1450, and they and the palace were smitten some two generations later when the local population had revived and become indignant against the usurpers. As studies progressed most archaeologists returned to Evans's first dating, assigning the pottery of L.M.IIIA:1 and some early examples of L.M.IIIA:2 fabrics to the palace period, before the fall, which then would be set around 1375. Since pots of the L.M.IIIB style were found in and above the ruins, it was assumed by Evans and almost everybody else that the site was reoccupied after the disaster by unhappy folk who camped there for more than a century, too poor and miserable to rebuild or imitate the works of Minos.

Next came another question and a quite different theory, which generated some overheated debate but also obliged us to reexamine the available evidence. Clay tablets with texts in Linear-B



FIG. 10. Part of terracotta statue (Inv. K.3.613) from the temple; height preserved 0.55 m. Made locally. Fifteenth century B.C.

script, very closely resembling those at Knossos, were found in a Mycenaean palace at Pylos in western Messenia, where they could be dated accurately to the end of the IIB phase, around 200 B.C. The language proved to be Greek and the texts to be economic records and accounts kept by a bureaucratic government. One result of this discovery was to confirm the earlier theory that Mycenaeans had established themselves at Knossos in the palace period, but it raised the question whether the language, the script, the form of the records and the type of governmental administration that they reflect could reasonably be supposed to have survived almost unchanged for nearly 200 years. In the opinion of a number of thoughtful scholars, they could not. The alternative then was to surmise that Evans had been mistaken in his interpretation of the ruins which he uncovered, that the palace was not destroyed in 1400 or 1375, but that mainland Greeks continued to control it down to the time of a single final destruction like that of Pylos, not much earlier or later than 1200.

This summary of the controversies over Knossos, curtailed and incomplete though it be, has brought us to a time long after that of which I was speaking, but the eclipse of Cretan power in general cannot be wholly dissociated from that of the dynasty of Minos. On the contrary, I find it exceedingly difficult to accept any theory which fails to link the one with the other.

Granted that archaeological evidence is frequently inadequate, that too many excavations have been made hastily, without proper supervision (especially in the early days of Aegean research), and that recording and reporting have been unsatisfactory by present standards; nevertheless a large amount of information is available.

One fact of obvious importance is the widespread destruction in the period of L.M.IB, which for convenient reference we are putting at 1450. Recently there have been renewed attempts to attach this event to the eruption and explosion of the volcanic island of Thera, about 75 miles from the northern shore of Crete. Unquestionably this was a cataclysm of extraordinary violence, comparable to, and possibly (though not necessarily) even greater than, that which happened at Krakatoa in 1883. Buildings in Thera itself have been found under the ashes and pumice which buried them; and objects on the floor are datable around the beginning of the Late Bronze Age. It has

been suggested consequently that the effects of the eruption, tsunamis (commonly, "tidal waves"), and seismic shocks, may account for the destruction on the shores of Crete and other neighboring lands.

It is an attractive theory, admitting of dramatic elaboration, which could indeed offer explanation of some of the known facts, but a number of important ones are left hanging. In the first place, we are uncertain whether the dates coincide precisely. This question will presumably be answered in the course of the exceedingly interesting excavations that were inaugurated by the Greek Archaeological Service under Professor Marinatos in 1967;<sup>11</sup> preliminary reports of the first two campaigns, like those of much older investigations by French and German scientists, have shown us imported pottery of the L.M.IA style but none of L.M.IB. Marinatos, one of the first and most eloquent proponents of the theory, suggests tentatively that the Thera settlements may have been buried by an earlier eruption, a forerunner of the great explosion which occurred some two generations later. He makes it clear, however, that this phase of the study has only now begun and that patience is called for.

An awesome wave, possibly one hundred feet high or even higher, racing at great speed to the shores of Crete, would wipe out settlements and kill almost every living thing within reach. In fact, very few skeletons have been found among the ruins; modest quantities of sand and pumice observed here and there were probably brought in by people for use in the houses; the state of fallen walls gives no consistent picture of collapse under impact of a rolling mass of water. Many places were burned, surely not destroyed by waves of the sea. Nor does it seem probable that great fires were started in days before gas, electricity, or even kerosene lamps. Phaistos in the south, far from exposure to Thera, was destroyed, but Knossos in the north was not. All in all, there are reasons for doubting whether the eruption was directly responsible for so much devastation.

The alternative, that the disaster was caused by man, is perhaps repellent to our sensitivities, but

<sup>11</sup> S. Marinatos, *Excavations at Thera: First Preliminary Report (1967 Season)* (Athens, 1968). *Idem*, "Helike-Thera-Thebai," *Athens Annals of Archaeology* 1 (1968): pp. 12-17; "The Excavation of Thera," *ibid.*, pp. 217-220. Reports also presented by A. K. Orlandos in *Ergon* 1967: pp. 89-95 and 1968: pp. 83-93.



FIG. 11. Masonry of House C.

a little—if only a little—easier to comprehend. The Mycenaean mainland had grown strong by this time and had learned to compete with Crete in trade overseas.<sup>12</sup> We can only guess at the state of political relations, unless the tale of Theseus can be taken as a reflection of events in the growing struggle, but rivalry existed and with it probably irritation and anger. If at that moment the explosion of Thera damaged and greatly weakened Crete, notably by creating waves that smashed most of the Minoan fleet on the north coast, but somehow failed to do much permanent harm on the mainland, one might suppose that the Mycenaean would be satisfied. But equally we may imagine that they would seize the opportunity to finish the job and take control. If Thera had nothing to do with this phase of the rivalry, some other event may have offered a reason or a pretext for an invasion. In either case I am suggesting speculatively that the Greeks did invade Crete, met resistance, destroyed the centers of power, and established themselves at Knossos. The Mycenaean characteristics of L.M.II pottery and the Mycenaean practice of burying warlike gear in the Knossian tombs at this time are then easily accounted for. The other towns of Crete were apparently not inhabited for a space, their survivors having been enslaved or having taken refuge in the hills. How long this state of things lasted I shall not attempt to determine. The palace at Knossos was destroyed, whether by accident or design, and at present I am inclined to accept M. R. Popham's conclusion that this happened early in the fourteenth century, not feeling that

similarities between Knossian and Pylian tablets 150 to 200 years apart constitute an insuperable obstacle. This chronological problem is more likely to be solved by expert analysis of the archaeological data than by philological scrutiny of texts and scripts that are still imperfectly understood.

With the end of Minoan political power, the Aegean world was open to domination by Mycenaean Greeks, and the second of the major crises to which I allude in my title, was finally resolved.

#### MYCENAEAN SUPREMACY

After the fall of Crete there was for some time no serious opposition to Mycenaean power in the Aegean area. Throughout the rest of the fourteenth century and at least the first half of the thirteenth the mainland was strong and confident, extending its trade to many ports in the eastern Mediterranean. So we are led to believe by the archaeological evidence that has been recovered and made known through reliable publications. Hence I shall not review the material or seek to question the general conclusions, but only append notes on recent observations in Keos.

Investigations at Ayia Irini have shown that the town was destroyed suddenly, almost certainly by earthquake, in the fifteenth century, and that some of the buildings were thereafter restored and reoccupied. The extent of the new settlement is not ascertainable; houses may have been put up in various places where subsequent erosion has removed all trace of them; but our impression is that the reoccupation was on a far smaller scale than what had preceded.



FIG. 12. Kylix (Inv. K.3359); height as restored 0.125 m. Imported Late Helladic IIIA:1.

<sup>12</sup> A. J. B. Wace and C. W. Blegen, "Pottery as Evidence for Trade and Colonization in the Aegean Bronze Age," *Klio* 32 (1939): pp. 131-147.



The basements of House C, with their massive unshakable masonry (fig. 11), were cleared out and reused. House F suffered worse but also was restored to service, at least in part. Pottery found in these rooms includes many pieces in the Mycenaean style called L.H.IIIA:1, but nothing certainly later. A small room near the main gateway of the town in Area G preserved a particularly clear stratigraphical record, having debris from the earlier destruction (L.M.IB/L.H.II) on its original floor and pots of L.H.IIIA:1 (fig. 12) in the upper strata that represent the reoccupation. Further analysis of material from other buildings may provide additional information.

Some of the rooms with evidence of second use were found full of fallen stones, very much like those of the houses which had never been reoccupied. This state of the ruins suggests that a second destruction, like the first, was caused by earthquake.

The chronology of events is not so closely determined as one might wish, since the L.H.IIIA:2 style of pottery may well have begun while that of L.H.II was still popular; and it is, obviously, impossible to give a precise date to any single

piece. Therefore, it is uncertain whether the reoccupation followed immediately upon the earlier disaster or after an interval. In any case it was not long-lived. This was a Mycenaean period, lacking the former marks of Minoan trade. It came to an end very nearly at the same time as the Palace of Minos, if Popham's conclusion about that date is correct, but the coincidence may be unrelated and fortuitous.

The site was not yet to be abandoned. After L.H.IIIA:1 comes IIIA:2, and this stage is represented also, though sparsely. The temple, to judge from scattered potsherds, was kept in usable state, but we have not much information about its architectural changes in this period nor any remains of domestic buildings whatsoever.

One remarkable structure calls for attention, an underground spring-chamber (fig. 13). It is carefully built with stone walls, large cover-slabs forming the roof, and steps leading down to the water. Its position is just outside the western stretch of the fortifications which were built in M.M.III (fig. 2), but time had elapsed before it was constructed. On the uneven rock floor of the chamber were found a few small sherds of L.M.IB

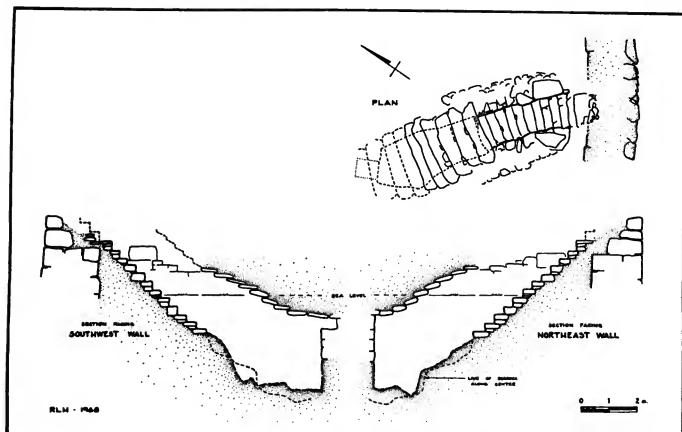


FIG. 13. Plan and sections of underground spring-chamber.

and some plain jugs that cannot be dated exactly. Higher in the filling were a number of little pots, cups, jugs, and stirrup-jars (fig. 14), of L.H.IIIA:2 style. These, unsuitable as vessels for drawing water, lay for the most part in a thick accumulation of black mud which looked to the excavators like the substances that collect on the bottom of ponds. The whole chamber and much of the stepped approach are today below sea level, and salt water fills them to a depth of about 3.75 m. above the lowest cavities in the rock.

Tentatively one may deduce that the spring-house was made in the main period of the town, before the great earthquake, to protect a permanent source of fresh water. It would have been approached through a passage in the town wall, which may still have been in a state to be defended if necessary. Then after the first or second earthquake there came a very marked change in the relative level of the sea, spoiling the water for drinking and making the chamber useless except as a rubbish pit, where the L.H.IIIA:2 pots were discarded. It could perhaps be imagined that the remaining space became a shrine and that the little pots were left there as votive offerings to an early Poseidon, god of seas and earthquakes, but we have not enough knowledge of Mycenaean religious practices to support a fancy of that sort.

Another discovery at the site which confirms our belief that the sea rose—or perhaps, since the change happened rather suddenly, that the land subsided—is the position of two large retaining walls, DE on the west and MG on the east, outside the old fortifications (fig. 2). Both are bedded at levels well below the surface of the sea today. A test beside the outer, northeastern face of MG showed that it was built with very heavy blocks of stone, in the Cyclopean manner, and that potsherds of L.H.IIIA:2 were present down to

the course where it rests; that is to say that the whole face was exposed at least until that time. The line of the wall cuts awkwardly across the space beyond the old gateway, but its placing seems well designed to protect this area from encroachment and erosion by the sea after an alarming change of relative levels. Wall DE is like MG and may have served a similar purpose. We suppose, for the moment, that both were built in the L.H.IIIA period, after the great earthquake of L.M.IB, but the whole topic must be studied further at Ayia Irini, and it points to the need of a larger review of other coastal sites in the Aegean.

#### THE DOWNFALL

Why and how Mycenaean civilization declined and vanished are problems that have engrossed many a student and given rise to thoughts filling many a volume. Even to summarize these is far beyond the scope of the present inquiry, but I shall try to follow certain of the paths that Rhys Carpenter four years ago asked us to travel.<sup>13</sup>

In the late Mycenaean age we come to the verge of history, a time not too long past to have been remembered after a fashion in tales handed down to the classical Greeks, and above all a time which we see through the eyes of Homer. This is an experience laden with danger for the historian. Xenophanes and Plato warned us against the beguiling charms of the poet, and we must be on our guard.

The palaces and fortresses and most of the smaller settlements on the mainland were burned and destroyed at the end of Late Helladic IIIB, or, more correctly stated, when pottery of the IIIB style was about to be superseded by that of IIIC. The date generally agreed upon is around 1200 B.C.

The Trojan War in Greek accounts, and by all logic if it is to be regarded as an historical event, must have preceded the fall of Agamemnon's capital by an appreciable interval. (Let me say that I believe a war took place and that the battleground was below the Bronze Age citadel found by Schliemann near Hissarlik, although I do not look for accuracy of historical or geographical description in a work of creative art like the *Iliad*.) How long the interval need have been we cannot



Fig. 14. Pots (Inv. K.3589, K.3587, K.3593) from the spring-chamber; height 0.09 m. to 0.112 m. Late Helladic IIIA:2.

<sup>13</sup> *Discontinuity in Greek Civilization*, The J. H. Gray Lectures for 1965 (Cambridge, 1966); reprinted with an Afterword (The Norton Library, New York, 1968).

determine; essentially, only long enough for Agamemnon to return and be murdered and then avenged. Looking at other parts of the tale, and giving credence to the sequence of events recounted, Blegen has pointed out that Nestor's return to Pylos and the succession of his sons would require more time, and that the war at Troy must, therefore, have been fought at least two generations before the destruction of Nestor's palace.<sup>14</sup> There has been criticism of several assumptions in this interpretation, but if the premises are granted the conclusions follow logically, and it must be borne in mind that Blegen as archaeologist has been the excavator of both Troy and Pylos. After careful analysis of the material remains he found nothing that contradicts this reconstruction of events. It is true that imported Mycenaean pottery in the burnt settlement of Troy VIIa, which we take to be that of Priam, and the succeeding town, VIIb1, is not altogether definitive. But until the pots and sherds can be analyzed with greater precision than Blegen could apply in the 1950's, there is not much profit in speculating about a change in their dating.<sup>15</sup> Let us say that Troy fell in the middle of the thirteenth century.

Wars require emotional pretexts as well as other reasons, and the loss of a beautiful queen may have supplied one. As underlying economic causes one can think of many possibilities, all related to the control of the Hellespont but none supported by known facts. My own guess is that Mycenae had begun to feel uneasy, foreseeing a danger of some sort either abroad or at home or both. The rulers did not retrench, for some of the splendid and costly works like the building of the greatest royal tholos tombs were carried out at this time, but the enlarging and strengthening of the defensive walls may not have been undertaken wholly as a display of confidence. With regard to Troy, I continue to wonder whether the destruction of the very powerful Sixth Settlement by earthquake around 1300 may not have created conditions which invited the expedition. Troy had been weakened, and Mycenaeans, perhaps still mindful

of a similar opportunity when Crete was won in the days of their great-grandfathers, or guided by other motives, may have thought this a favorable moment to become masters of the straits. And the failure of the enterprise—for in the end it accomplished nothing but ruin—may have contributed ultimately to the downfall in Greece itself.

When we observe evidence of a general destruction at one moment in the physical history of an ancient town, and especially when the destruction is multiplied at many sites, we may not unreasonably guess that it was wrought by invaders. In the later Greek records of early events, shaky and inconsistent as they notoriously are, there is reference to only one such invasion which could fit with the circumstances of havoc in Mycenaean Greece, namely that which was called the descent (*kathodos*) of the Dorians. Linking these was inevitable, and many have come to believe that the Dorian tribe from central Greece, whose dialect in time became dominant in most parts of the Peloponnese, were the destroyers. This theory accounts for a number of the evident facts and strengthens the feeling that, in spite of sharp changes, certain essentially Greek elements of Mycenaean life were carried on through a dark age to re-emerge some four hundred years later.

Carpenter has never been one to let us relax with a comfortable explanation or to rest easy with the words of authority in a single field of specialized study. In the Gray Lectures of 1965 he questioned all the foregoing interpretation. If the Dorians came as conquerors, why was it impossible to discover weapons and artifacts that they used in battle and in bivouac? If Dorians were leaders of the expedition, why was the enterprise known almost invariably in the ancient accounts as the Return of the Heraclidae? (For Heracles was a universal, and preeminently an Argive, hero, not a Dorian.) And how could the might of the Mycenaean rulers, well organized and well equipped in their Cyclopean fortresses, be overcome by a wandering band, no matter how redoubtable?

The alternative which Carpenter offers leads us far on many trails, and by now perhaps most of my readers will have followed these with attention and delight through the eighty pages of his little book. The conclusion is that the Mycenaean centers were not destroyed from without but from within; that the cause was not greed of a foreigner but desperation of the local populace driven mad by

<sup>14</sup> "The Mycenaean Age, The Trojan War, The Dorian Invasion, and Other Problems," *Lectures in Memory of Louise Taft Semple*, University of Cincinnati Classical Studies 1 (Princeton, 1967) pp. 5-41, especially pp. 25-26.

<sup>15</sup> J. L. Caskey, "Archaeology and the Trojan War," *Jour. Hellenic Studies* 84 (1964): pp. 9-11.

hunger. The hunger was a result of famine in the land, brought about by an alteration of climate which withered crops and left man and beast without means of survival.

Greece is an arid land today, though having enough water to support its modest population, and we are inclined to think that this was always the case in times of which there is any record. Carpenter argues, however, that small alterations in the temperature of the planet, with expansion and contraction of the equatorial zone and the polar ice caps, have caused temporary shifts in the storm tracks across Europe and hence an extension of the dry summer winds and a reduction of the winter rains that maintain the balance today. Only a slight shift, if prolonged over several consecutive years, could bring disaster, as has been seen in other parts of the world in our own time. According to some climatologists, these alterations, relatively slight but to particular regions vitally serious, are cyclical; one expert puts the interval at 1850 years.

If a hot dry stage was reached around 1200 B.C. it may have reduced the margin of subsistence to a degree at which desperation resulted, not only in Greece itself but in Asia Minor, where in similar manner the Hittite empire fell suddenly in a short time without leaving any clear signs of attack from without. The parallel is indeed very striking. And as possible further confirmation of the cyclical theory one may note that the preceding dry phase would have occurred just before 3000 B.C., when in fact a fairly prosperous late Neolithic culture seems to have ended,<sup>16</sup> and that the following cycle would take us to the seventh century after Christ, when another period of depression is evident in Greece.<sup>17</sup>

<sup>16</sup> C-14 analysis of a large quantity of carbonized beans from Kephala in Keos has given a date of  $3021 \pm 58$  B.C. (half-life 5730 years; calculated by Miss E. Ralph of the University Museum, Philadelphia). Pottery and other objects from this site are of Late Neolithic character.

<sup>17</sup> There were large churches in Greece in the Early Christian period, indicating considerable prosperity. By the seventh century these seem to have been abandoned, the center of Greek life having moved altogether to Constantinople; drought and famine need not have been involved. On the other hand, pursuing Carpenter's line of argument, one might speculate that drought in north Africa brought desperation there and made men the readier to follow Mahomet, hoping to find a better physical as well as spiritual life.

Neither the Dorians nor the Phrygians came in war, Carpenter concludes, but made their way with little opposition into lands already depopulated. He ties in many of the loose ends: the descendants of Heracles would have left Argos in the troubled days, making their way to central Greece and settling there for a time, then from Doris leading their new friends back to the ancestral homeland; other Mycenaeans would have moved to the slightly less arid northwestern parts of the Peloponnese and eastward to Attica and the Aegean, propagating the culture which in archaeological parlance is known as Late Helladic, or Mycenaean, IIIC.

The sum of the arguments carries weight and this explanation of the whole course of events deserves careful attention. I for one am convinced that archaeologists and historians of early times have paid too little heed to the effects of climate and to the changes that might follow even small shifts in the patterns of average rainfall. That a hot dry phase may have occurred around 1200 B.C. and contributed in some measure to the downfall of the Mycenaean political organization seems to me quite credible. On the other hand, that climatic conditions alone determined the course of events at this time is open to very serious doubt. The author of the theory insisted that to his mind this was the only solution of the whole problem (*Discontinuity*, p. 18). In fairness we must remind ourselves that in 1965 he was presenting his ideas in a short series of lectures, not in an exhaustive treatise on all aspects of the case.

There are difficulties in the chronology. Carpenter sees a breaking of the drought in the ninth century B.C. and the return of "abundant" rains in the eighth. But the Peloponnese must have offered a livelihood much earlier if the Heraclids and Dorians chose to settle there "around the year 1000 B.C." (p. 75) or "somewhat later than the year 1000 B.C." (p. 71), a date which he associates with the incidence of Protogeometric pottery. In that case, what was the interval between the fall of Troy and the return of the Heraclids? Thucydides (I, 12) tells us that it was of eighty years. Was Troy sacked, then, in 1080 or "somewhat later"? No; the destruction, however it may have come about, occurred more than a century earlier. Again: we are reminded of the report by Dio-

dorus<sup>18</sup> that the Boeotians retired at the time of the Trojan War to Thessaly and returned to their country in the fourth generation, and this return, Carpenter says, "should have occurred about the year 1000 B.C. (give or take a quarter of a century)" (p. 47). But the departure "would coincide—as far as at present can be ascertained—with the burning and permanent abandonment of the palace on the Copaic island hill of Gla."<sup>19</sup> Around 1100? No; as far as at present can be ascertained, the burning of the Mycenaean centers occurred around 1200, a date which Carpenter elsewhere accepts. One can see why he shifts: if the people fled from famine, he is loath to bring them back only a few years later when the drought was presumably still at its worst. But an appeal to the testimony both of archaeology and of the ancient writers carries with it some obligation to state the conflicting evidence and to observe, if not to explain, the inconsistencies. I find neither the statement nor the explanation, and am left with a feeling that the structure of the argument is weak.

Other troublesome questions arise. Long stretches of a wall have been found at the Isthmus of Corinth. It faces north and clearly it was designed to protect the Peloponnese from invasion. Whether it was ever completed is unknown; the western end has not been discovered. O. Broneer, the excavator, records strong evidence for its date in the time of Late Helladic IIIB;<sup>20</sup> that is, in the thirteenth century. Very obviously the existence of this wall implies that people feared an attack from the direction of the Megarid. Who the potential enemy was and whether he ever approached cannot be known, but the fortifications (which Carpenter does not mention) are far from suggesting that the Peloponnesians were preparing to desert their homeland under a threat of famine.

In the lectures attention is paid to the early history of Attica, which, according to the ancient account, was spared the disasters that befell the rest of southern Greece and became a refuge for some of the exiles. Against the statement of

Thucydides (I, 2) that Attica was dry and barren and not worth capturing, Carpenter cites a pleasing picture of fertility as described by Plato (*Critias*, 110e) and he attributes this condition to moisture gathered from the Gulf of Corinth by westerly winds which enter the Attic land through what he calls "the Aegosthena gap," to deposit rain on the mountains of Parnes, Pentelikon, and Hymettos. It is an ingenious explanation, but, to me, not wholly convincing. How much water is in fact picked up from the narrow gulf, and how much finds its way through the small upland valleys near Cithaeron and into the plain below? The country of Athens is indeed pleasing, but not because it has abundant vegetation, or, to our knowledge, ever had. It is suitable for growing olives—as Athena told the people long ago—and olive trees need relatively little water.

Apart from our inexpert estimate of wind-borne moisture, however, there is the fact that the most extensive settlements of the twelfth century (L.H.IIIC), as yet discovered, are on the east coast and in Euboea, beyond the mountains which in Carpenter's scheme would trap the water. The great cemetery at Perati shows where many of the people had chosen to dwell, and where they appear to have prospered, whether they were refugees or not; and the British excavations since 1964 at Lefkandi near Chalkis have revealed that a large community thrived there for many generations after the downfall of the Mycenaean strongholds.<sup>21</sup> These places have not the look of misery or makeshift. Grant that they do not rival the splendor of the vanished palaces; but why should they? It is with the earlier *villages*, not the royal citadels, that the later settlements ought to be compared.

<sup>21</sup> *Op. cit.* (note 5, above), pp. 11–29, 34–35. Further excavation is in progress at Lefkandi. The site appears to have been inhabited from a late phase of the Early Bronze Age to the end of Late Helladic III C, and again in the periods of Protogeometric and Geometric pottery. A cemetery nearby has yielded Submycenaean and Protogeometric pots; the settlement to which it belonged is probably to be sought on one of the neighboring hills. There may have been brief intervals between the successive occupations of the region after the L. H. III C period. A parallel may be seen in the life of the temple at Ayia Irini in Keos: parts of it were rebuilt and reused until late in III C, then in Protogeometric, Geometric, Archaic, and Classical Greek times, with no more than minor interruptions. See note 3, above.

<sup>18</sup> The account in Diodorus (XIX, 53) is not quite so clear as Carpenter (p. 47) makes it appear to be; nor does it coincide precisely with that given by Thucydides (I, 12).

<sup>19</sup> Investigations by J. Threpsides, reported annually by A. K. Orlandos in *Ergon* 1955–1961.

<sup>20</sup> O. Broneer, "The Cyclopean Wall on the Isthmus of Corinth and its Bearing on Late Bronze Age Chronology," *Hesperia* 35 (1966): pp. 346–362.

One ought also to have in mind that the term IIC is chronological, not necessarily pejorative. Mrs. Vermeule in the most perceptive and sensitive essay that has yet been written on this subject draws attention to the traditional and creative qualities of provincial art that survived the annihilation of palatial art.<sup>22</sup> She sees that they existed all along, on a lower, or at least a different plane and persisted, sinking nearly to invisibility in the dark age but somehow never wholly extinguished, until ultimately they gave of their strength in the fashioning of the Hellenic world.

This view (and let me say that I think it is the right one) corresponds in essence with that of A. J. B. Wace. After many years of sober study and excavation he was convinced of the independence of Helladic and Mycenaean culture from the Minoan, and of its continuity.<sup>23</sup> He was consistently zealous, sometimes perhaps overzealous, as champion of Mycenae against Evans's Cretocentric interpretation of Aegean history. Like Carpenter, though from an almost diametrically opposite point of view, he rejected the theory that the great destructions around 1200 B.C. were wrought by Dorian Greeks; unlike him, he held a steadfast belief that evidence from excavations in the end would illuminate the gradual transformation of Mycenaean into Classical Greece.

Carpenter, having also given many years to inquiring, questioning, and reflecting upon this "greatest still unsolved problem in Mediterranean history," concluded that there was discontinuity, an all but complete cessation of the Mycenaean way of life, and that the observable facts could be explained only in terms of a great famine brought on by drought. A number of his arguments may be questioned in turn, as suggested above, but these are less important than his insistence upon a single explanation of the whole course of events. In the final lecture of the series he mentions the disintegration of Greco-Roman civilization in and after the fourth century of our era and recognizes it as "a problem of great complexity, . . . involving so many considerations that the climatological factor

can at most be only a contributory cause." Among other factors, I would suggest that the unaccountable, unpredictable, and often inexplicable behavior of human beings played a very decisive role in the decline and fall of Rome. (Carpenter the humanist would of course agree.) Of the people of the Greco-Roman world we know a great deal. Ought we not to recognize that people of the Mycenaean world, of whom we know so very little, may also have been responsible in large measure for their own prosperity and subsequent downfall?

Uncontrollable drought leads to famine and death and a deserted land. But conversely, lands once prosperous through planting and irrigation and conservation of moisture may be depopulated for reasons that are political or otherwise man-made, and consequently become deserts. Examples of this process are well known in regions of the Aegean and the Near East. Desiccation may be a result, as well as a cause. If the events chance to coincide, abnormal dryness coming at a time when political control and confidence are weakened, the outcome may indeed be disastrous. I cannot but wonder whether the conditions of the dark age were brought about by a coincidence of this sort.

We cannot know at present, and perhaps we shall not ever know with certainty, but the problem will not let us rest. The Gray lectures of 1965, doubly effective because their author so skillfully marshals the English language as an instrument of thought, will direct more of the archaeologists' attention to questions of climate. Where the general conclusions of climatologists are not sufficiently precise, one may turn to palaeobotany, physical anthropology, and, possibly most important, the specialists' study of bones of animals. These are found in great numbers at most of the ancient sites and can be collected with the same regard for stratigraphy as potsherds; from them can be determined not only the relative numbers of the different species in successive periods, but sometimes also quite minor variations, which may ultimately be seen to reflect even small changes in the ecology of the region. Refinement of the several scientific methods for determining dates and composition of ancient materials will in time provide a more accurate chronology. Geological, oceanographical, and seismological studies are called for in many regions. Lucky discovery of ancient texts and proper interpretation of their

<sup>22</sup> Emily Townsend Vermeule, "The Decline and End of Minoan and Mycenaean Culture," *A Land Called Crete, A Symposium in Memory of Harriet Boyd Hawes, 1871-1945* (Northampton, Mass., 1967), pp. 81-98.

<sup>23</sup> See, e.g., his Foreword to M. Ventris and J. Chadwick, *Documents in Mycenaean Greek* (Cambridge, 1956), pp. xvii-xxxi.

meaning may of course provide information of greater value than all the rest.

To gather a group of specialists competent in these and the other fields that are related to our problem is a large undertaking in itself, but only a first step. The second, to analyze the information acquired and to present a coordinated report of that which is pertinent and meaningful, is obviously much more difficult. Professor Carpenter at the close of his lectures likened the process, in a poetical metaphor, to the reblending of separate

colors into "the white light of historic actuality." I am less than confident that perfect synthesis can be achieved, for the object of our study, human activity in times long past, is more impalpable, more obstinate, than those which are faced in purely scientific inquiries. But although some of the elements are no longer discernible and some of the colors are faded and distorted, the light may yet be clear and strong enough to reveal an intelligible image of the Aegean world at those critical moments of which we have here been speaking.

# KAUTILYA, PLATO, LORD SHANG: COMPARATIVE POLITICAL ECONOMY

JOSEPH J. SPENGLER

James B. Duke Professor of Economics, Duke University

(Read April 25, 1969)

Benevolence and righteousness are not sufficient for governing the empire.  
*Book of Lord Shang* (18)

For that state in which the law is subject and has no authority, I perceive to be on the highway to ruin.

Plato, *Laws* (715)

The (king), seeking the orderly maintenance of wordly life, should ever hold the Rod lifted up (to strike).

Kautilya, *Arthaśāstra* (1.4.5)

They are led by an invisible hand . . . ; and thus, without intending it, without knowing it, advance the interest of the society. . . .

A. Smith, *Theory of Moral Sentiments*, Part IV, chap. 1

THROUGHOUT man's literate history, spokesmen for two polar philosophies of government have contested for man's mind and governance, that of *laissez faire* and that of dictatorship or quasi-dictatorship. In modern times, after order seemed established in the eighteenth century and the philosophy of conditional *laissez faire* had been persuasively expounded by Adam Smith among others, at least some believed that *laissez faire* stood a good chance of becoming built into the minds and institutions of men. Unfortunately, the principles essential to the preservation of *laissez faire* were imperfectly understood while man's international belligerence steadily enlarged the powers of the state, sometimes even enabling it to take over the underlying community. More recently, increasing political stimulation of man's wants beyond his capacity to supply them has generated forms of disorder that intensify other forces making for the ascendancy of quite rigid authoritarianism.<sup>1</sup>

<sup>1</sup> See my "Return to Hobbes?" to appear in *South Atlantic Quarterly*, 68 (1969); John W. Gardner's *Uncritical Lovers, Unloving Critics*, commencement address delivered at Cornell University, Ithaca, New York, June 1, 1968. On the role of war, see E. Halévy, *The Era of Tyrannies*, transl. by R. K. Webb (New York, 1965). See also my "The Problem of Order in Economic Affairs," *Southern Economic Journal* 15 (June, 1948): pp. 1-29; "The Role of the State in Shaping Things Economic," *Journal of Economic History, Supplement* 7 (1947): pp. 123-143; and "Hierarchy vs. Equality: Persisting Conflict," *Kyklos* 21 (1968): pp. 217-236.

My paper contrasts the order-enforcing prescriptions found in three manuals of nearly two and one-half millennia ago. These appeared in the fourth century B.C. in three widely separated centers: the *Arthaśāstra* of Kautilya, minister to the founder of the large Mauryan Empire in Northern India; the *Book of Lord Shang*, author of the tyrannical measures that helped to produce the meteoric expansion of the initially small Western Chinese state of Ch'in; and the *Laws* of Plato, in part a reaction to the disasters visited upon Athens by her democratic rulers. The political conditions to which each author was responding were similar in that each believed himself to be in a world of actual or incipient anarchy. This was the view of Kautilya, who found in centralization of power the only practical answer to the threat of anarchy and "the law of the fishes" according to which the bigger ones swallow the smaller ones.<sup>2</sup> It was the view of Lord Shang who lived in the troubled period of Warring States that had witnessed the devolution of power to feudal lords. It was also the view of Plato,

<sup>2</sup> See *The Kautilya Arthaśāstra* 2, translated with critical and explanatory notes by R. P. Kangle (Bombay, 1963), Bk. I, chap. 4, and note on p. 11. Kangle discusses many questions relating to the *Arthaśāstra* in *The Kautilya Arthaśāstra* 3 (Bombay, 1965). On Kautilya's economics see my "Arthaśāstra Economics," in Ralph Braibanti and Joseph J. Spengler, eds., *Administration and Economic Development in India* (Durham, 1963), pp. 224-259.



aware of the factionalism and conflict between rich and poor which had contributed to the dissolution of Hellas under the impact of the Peloponnesian War. It should be noted that whereas the works of Plato and Kautilya are authentic, the work attributed to Lord Shang is not really of his composition, but embodied his ideas as well as earlier ideas of the so-called School of Law.<sup>3</sup> Each of these works, especially those of Kautilya and Plato, reflected various prevailing conditions and practices.

We may perhaps better understand the order-oriented philosophy underlying the prescriptions of our three authors, if we look at what many today believe—namely, that ours is a disorderly age remindful of that conjectured by Hobbes and earlier described by Thucydides and Polybius—an age to whose chaos authoritarian rule is a quite possible sequel. This chaos, it is also believed, flows from deficiencies in man's currently pursued means to social order, a combination of Mencius-like faith in man's capacity for benevolence and righteousness with confidence in the unifying powers of a permissive welfare state. After all, wants generated by political means are bound to outstrip a community's economic capacity to satisfy such wants and hence must give rise to increasing frustration of man's expectations.<sup>4</sup> This ascendance of political over economic want-generation, together with the disorder which comes in its wake, may be numbered among the progeny of the two Peloponnesian wars which sundered the world of European civilization and polity between 1914 and 1945.

Yet, just as we are forced to deal with many questions somewhat removed from the solution of the problem of impending chaos, so each of our authors faced corresponding politico-economic problems, his answers to which reflected his major concern regarding order. One must keep in mind, however, that the political environments of the three authors differed markedly. Plato has in view the small Greek city-states, only one of

which, Athens, had temporarily headed a small, partially sea-borne empire, and all of which were destined soon to be reduced to desuetude by Macedonia.<sup>5</sup> Kautilya headed a great and expanding land-borne empire, with power centralized and administered by a quite complicated and powerful bureaucracy. Lord Shang was developing a powerful state and using a primitive governmental apparatus to strengthen it and extend its sway.

#### CLASS STRUCTURE.<sup>6</sup>

Each author supposes the class structure to be essentially rigid, in conformity with his assumption of a relatively static society. Plato's very small city-state was made up of some 5,000 citizens and their families, together with slaves, metics, and strangers, who would do the ignoble work, thereby allowing citizens time for noble occupations and the craft of citizenship (738–41, 776–77, 850, 920).<sup>7</sup> The land and houses having been distributed among the 5,040 citizens, development of only a limited degree of inequality was to be permitted,<sup>8</sup> lest wealth become a source of distraction and dissension (744–45).

<sup>5</sup> On empire see Alfred Zimmern, *The Greek Commonwealth* (New York, 1931), chap. 7, also pp. 219–223, on Venice.

<sup>6</sup> Numbers in parentheses following references in the text to Plato, Lord Shang, and Kautilya indicate pars. in the following editions: Plato's *Laws*, transl. by B. Jowett in *The Dialogues of Plato* (New York, 1937); Kangle's translation of Kautilya's *Arthashastra* (Bombay, 1963); and *The Book of Lord Shang*. Plato's *Laws* is compared with actual Greek institutions in Glenn R. Morrow's *Plato's Cretan City* (Princeton, 1960). See also Alfred Zimmern, *op. cit.*

<sup>7</sup> Estimates of the composition of the population of Plato's hypothetical state differ. Morrow puts at 10 to 12 thousand the number of male citizens and at four times this number the citizen population. He also suggests the presence, on the basis of the population of Athens in 431 B.C., of somewhat fewer than 7–8 thousand metics and 27–32 thousand slaves. *Op. cit.*, pp. 128–130. C. B. Welles multiplies Plato's 5,040 citizens by 4 to get a citizen population of about 20 thousand and infers from Plato's data on food consumption (848) that there were corresponding numbers of metics and slaves, or 60,000 people in all. These occupied between 201 and 805 square miles, or 75 to 200 persons per square mile. See "The Economic Background of Plato's Communism," *Journal of Economic History, Supplement 8* (1948): pp. 101–114. See also A. H. M. Jones, *Athenian Democracy* (Oxford, 1957), chap. 4 and appendix; and Zimmern, *op. cit.*, chaps. 6, 12.

<sup>8</sup> A man was not permitted to acquire property in excess of four times the initial and minimum holding (744–745). If a citizen's property rose above the maximum allowed, the excess would go to the state (754, 850).

<sup>3</sup> See J. J. L. Duyvendak's introduction to his translation of *The Book of Lord Shang* (Chicago, 1963), pp. 73, 131–141, and esp. pp. 142–159; see also *ibid.*, pp. 66–130 on the School of Law, and Fung Yu-Lan, *A History of Chinese Philosophy*, transl. by Derk Bodde, 1 (Princeton, 1952): chap. 13.

<sup>4</sup> On Mencius and his school of Confucianism see Fung Yu-Lan, *op. cit.* 4: chap. 6; also Duyvendak, "Introduction," *loc. cit.*, pp. 111–112; also my "Ssuma Ch'ien, Unsuccessful Exponent of Laissez Faire," *Southern Economic Journal* 30 (Jan. 1964): pp. 223–243.

Kautilya follows the Vedic division of classes into the four varnas (not yet subdivided into a vast number of castes) Brahmin, Kshatriya, Vaishya, and Shudra, of whom the first two, especially the Brahmin, enjoyed preference. Responsibility for what we should consider the most productive activities was imposed upon the two lower varna, whose duties included agriculture, cattle-rearing, and trade, with the Shudra responsible also for the "profession of artisan and actor," and with the ruler responsible for preserving this divinely sanctioned four-class system (1.3). Responsibility for the performance of bureaucratic roles rested mainly, though (in practice) not entirely, with the first two varnas. The king, a major source of rules and regulations and executor of the maxims of the cosmic order, was obligated to uphold this order (III, 1.38-45).

Whereas Plato's state was essentially the agent of its citizens and Kautilya's ruler was bound by dharma and custom, Lord Shang looked upon the people as the instruments of the state (5) and upon agriculture and war as "the means, whereby a country is made prosperous" (3). His emphasis, therefore, was on occupation rather than class, above all upon agriculture and military activity, but with the activities of artisans and merchants approved only in so far as needed (4). "Office," "trade," and "farming," are called "the three permanent functions in a state"; and merit or performance, not birth, is declared to be the proper basis of rank and reward (4).

#### THE ROLE OF LAW

Lord Shang viewed the law as more of a change-producing instrument than did Plato or Kautilya. According to Plato, men could enjoy security and the common good only if the Law ruled and preserved order and virtue (713-716). Even then "justice" needed to be supplemented by "friendship and communion of mind," and by "unwritten customs" suited to fill the interstices of laws (694, 697, 793). There was need, moreover, for an institutional matrix to embody laws as well as for means to amend legislation even though Plato's community was essentially static (769-772).<sup>9</sup> In the *Arthaśāstra*, we find a set of presumably enforceable regulations calculated to make the state wealthy and powerful. The ruler was circumscribed, however, both by dharma, quite analogous to Western natural law, and by

his obligation to acknowledge local and customary law.<sup>10</sup> Kautilya's view of his world was essentially static, however, much as was Plato's.

Lord Shang's conception of the role of law was paradoxical. His world was technologically more static than Kautilya's; yet he was hostile to tradition (represented by Mencius, follower of Confucius and contemporary of Lord Shang) and looked upon the ruler as a source of law, much as did Hobbes, and upon law itself as a utilitarian and change-producing instrument. "A wise man," he said, "creates laws" and "reforms rites" to meet "practical requirements" and "the needs of the times" (1.8). As "needs" change, the ruler must change "laws" accordingly.<sup>11</sup> "Orderly government is brought about in a state by . . . law, . . . good faith, and . . . right standards." "If law is established, rights and duties are made clear, and self-interest does not harm the law, then there is orderly government" (14, 25-26). In Shang's hands earlier concepts of law were coalesced and "the law of the state" became "its norm of conduct." It thus was divested of its earlier moral character and made binding upon the legislating ruler as well as upon all others, to whom, of course, it had to be made known.<sup>12</sup> Shang believed that, in the absence of law, most men, including rulers, would not be virtuous or shaped right (1.3, 18, 24, 26). It was essential, therefore, that the law be specific and unambiguous, with the rights and duties of each and all

<sup>10</sup> John Spellman writes that "it is the Western idea" of natural law (by which every act of the Sovereign was limited) "which most nearly approaches that of dharma." See *Political Theory of Ancient India* (Oxford, 1964), p. 102, also 103, 234. On Plato's anticipation of Western natural law, see Morrow, *op. cit.*, pp. 563-565, also 155-156, 587-588. On the conception of *fa*, the essence of that after which things are modeled, see Fung Yu-Lan, *op. cit.* I: pp. 259-261; Duyvendak, "Introduction," *loc. cit.*, pp. 88-90.

<sup>11</sup> When Duke Hsiao, employer of Wei Yang (later Lord of Shang), hesitated to alter the laws, the latter denied the view that "a wise man obtains good government, without altering the laws," saying that "he who accomplishes a great work does not take counsel with the multitude," or "model himself on antiquity." See Duyvendak, "Introduction," *loc. cit.*, p. 13, also pp. 39, 79-89, on the need to centralize power in the hands of a ruler and buttress it with penal laws and institutions instead of ineffectual tradition, and with rewards and punishments instead of *li*, or right conduct prescribed by natural law. The object of this centralization of power was the dissipation of feudal anarchy.

<sup>12</sup> Duyvendak, "Introduction," *loc. cit.*, pp. 88-91, 111-115, 119.

<sup>9</sup> Morrow, *op. cit.*, chap. 11.

clearly defined (26). Illustrative of Lord Shang's use of law to bring about change were his rules relating to agriculture, waste lands, and immigration, among others.<sup>13</sup> He seems to have recognized, albeit inadequately, the importance of supplementing law with politics (6).<sup>14</sup>

#### OPTIMUM

Plato conceived of the city-state in terms of an optimum, thus reflecting Greek emphasis upon order and finitude. He put at 5,040 the number of family heads in his Model City (738), a number implying, as we have said, a citizen population of some 20 to 40 thousand, along with slaves and metics (745-46, 771).<sup>15</sup> This number, together with good laws and institutions, Plato considered adequate for both defense and realization of the end of the state, namely, unity and the common good (713-716, 737-738, 875).

While Kautilya included mainly military considerations in his notion of the optimum state, he also listed the "excellences of a country"; these consisted largely in natural resources, transport, output, and the industry of its inhabitants (6.1).<sup>16</sup> Given these excellences, the king's subjects could realize their happiness and thus assure that of the king (1.19, 34). Several or many regions with these excellences could be assembled into a larger state, it is implied, though at the risk of subsequent disassembly.

Lord Shang touches here and there upon elements that might define an optimum state. Fundamental is order, maintained by a ruler, with

"law supreme" and sustained by rewards and punishments (7). It was essential also to maintain balance between territory and population by increasing the one in short supply. Then suitable support could be given to the army (6). Agriculture must therefore be furthered by restricting alternatives, maintaining simple tastes, and using punishments and rewards effectively (6). He observed also that "a numerous population and a strong army is the great capital of an emperor" (20) and that a scattering of population should be averted inasmuch as it handicaps administration and makes for heterogeneity (3).<sup>17, 18</sup>

#### COLONIZATION AND SETTLEMENT

Plato's state could face a colonization problem, but not a settlement one, since it included little or no unutilized land. "The present number [i.e., 5,040] of families should be always retained, and neither increased nor diminished." Accordingly, when devices at hand failed to prevent a redundancy of population, it became necessary to send out a colony (707-708, 741). Sending out colonies had long been a means whereby Greek city-states dealt with the emergence of a surplus population, though less common in Plato's day. Such colonization was a collective undertaking, however, a transplantation of a community patterned on the mother city. Indeed, Plato's *Laws*

<sup>17</sup> He writes as follows (6): "In administering a state therefore, and in disposing of its territory, the correct rule of the former kings was to populate the mountains and forests with a tenth of the people, the marshes and moors with a tenth, the valleys, dales and streams with a tenth, cities, towns and highways with four tenths. In administering a state, therefore, and in dividing arable land, if a minimum of 500 *mu* is sufficient to support one soldier, it is not making proper use of the land. But if a territory of 100 square *li* supports 10,000 soldiers for war as a minimum, then it shows that the cultivated land is sufficient to nourish its population, that cities, towns and highways are sufficient to accommodate their inhabitants, that mountains and forests, marshes and moors, valleys and dales, are sufficient to provide profit, and that marshes and moors, dykes and embankments are sufficient for grazing. Therefore, when the army marches out, and grain is given them, there is still a surplus of riches; when the army is resting, and the people at work the cattle are always sufficient. This is said to be the rule for making use of the land and for supporting soldiers."

<sup>18</sup> Kautilya did not include population explicitly among the constituents of the state among which he numbered king, minister, country, fortified city, treasury, army, and ally (6.1).

<sup>13</sup> *Ibid.*, pp. 41, 91-92.

<sup>14</sup> *Ibid.*, pp. 93-96, 99-102.

<sup>15</sup> See note 7 above. On Plato's notion of limit, see Morrow, *op. cit.*, pp. 560-561.

<sup>16</sup> Kautilya described this "optimum" as follows (6.1.8): "Possessed of strong positions in the centre and at the frontiers, capable of sustaining itself and others in times of distress, easy to protect, providing excellent (means of) livelihood, malevolent towards enemies, with weak neighboring princes, devoid of mud, stones, salty ground, uneven land, thorns, bands, wild animals, deer and forest tribes, charming, endowed with agricultural land, mines, material forests and elephant forests, beneficial to cattle, beneficial to men, with protected pastures, rich in animals, not depending on rain for water, provided with water-routes and land-routes, with valuable, manifold and plenty of commodities, capable of bearing fines and taxes, with farmers devoted to work, with a wise master, inhabited mostly by the lower *varnas*, with men loyal and honest,—these are the excellences of a country." Kautilya refers to bands of conspiracy and to tigers in particular.

amounted to an exposition of the institutions and laws appropriate to such a new colony.<sup>19</sup>

Both Kauṭilya and Lord Shang faced a different problem, a surplus of land and the need to settle unoccupied land already possessed or about to be conquered. Kauṭilya described how the king should settle the underpeopled countryside with foreigners and natives from crowded areas, especially with the two lower and more productive varnas, attracting them by supplying social overhead capital and credit, security, employment opportunities, and temporary tax advantages (2.1; 7.11). Lord Shang, believing agriculture and war to be the pillars of prosperity and national strength (3), sought to force people into agriculture by shrinking their alternative opportunities (2) and to encourage immigration by granting exemptions from taxation as well as titles to fields and houses (15).

#### AGRICULTURE VS. TRADE

Lord Shang emphasized agriculture almost to the exclusion of trade, because concentration on agriculture and war, coupled with absolute government and prohibition of cultural pursuits, would make the state powerful and supreme. Hence income in other occupations and access thereto must be highly restricted; then trade and various non-agricultural undertakings other than weaving would be avoided (2-4, 6). Indeed, trade ought virtually to be prohibited, along with the use of money (4, 13, 20).<sup>20</sup> After all, a normal store of grain was superior to a store of gold, especially in times of actual or impending grain shortage (4, 20).<sup>21</sup> Lord Shang substituted private property in land for the "ching" or well-system, hoping thereby to encourage agriculture, but his expectations were not realized and the lot of the agriculturalist probably became even harder.<sup>22</sup>

<sup>19</sup> Morrow, *op. cit.*, pp. 3ff; Zimmern, *op. cit.*, chaps. 6, 12. Plato had remarked earlier that, should riches increase, a man may dwell in a "city of which he is no longer a part." *Rep.*, 551-552. The *Laws* was directed to avoiding this problem. See also G. Glotz, *The Greek City and its Institutions*, transl. by N. Mallinson (New York, 1929) Part III, chap. 2.

<sup>20</sup> Duyvendak, "Introduction," *loc. cit.*, pp. 48-50, 86-87.

<sup>21</sup> *Ibid.*, pp. 49-53.

<sup>22</sup> *Ibid.*, pp. 41-48, 52-53. Wealthy members of the population bought up the land, with the result that tenantry rather than landownership became common and that, as in India, lenders charged exorbitant interest when the crops were poor and cultivators had to pay heavy taxes and perhaps meet other pressing expenses. *Ibid.*, pp. 52-56.

Plato's approach resembled Lord Shang's in that agriculture was the only gainful occupation he declared open to citizens, each of whom was to own and cultivate a plot of land just adequate for the support of himself and his family. He assumed, of course, that "the territory" of the state was sufficient to maintain "in a moderate way of life" a number of inhabitants capable of defending themselves as well as neighbors who had been wronged (737). Trade and handicrafts were to be carried on only by resident aliens or slaves. Importation of luxuries and exportation of necessities were prohibited as was money-lending and nearly all exchange involving credit (see 736, 741, 743, 842, 846, 847, 849, 919-921). Possession of gold and silver on the part of private persons was also forbidden (742). Plato's state thus is quite different from the Athens which Solon brought into existence and Pericles and Herodotus described;<sup>23</sup> but then neither looked upon citizenship as so time-consuming a craft as did Plato.

Kauṭilya's economy was much more complicated than those of Lord Shang and Plato. Agriculture, carried on under both public and private auspices, was by far the major source of output, being facilitated in part by governmental promotion of irrigation, village construction, and so on (2.11, 2.24). Various other kinds of activities, together with their regulation, are described in detail in Book 2. Trade was carried on in both state and private goods (2.16, 4.2). Neither Kauṭilya nor Lord Shang conceived of such a political phenomenon as time-consuming citizenship.

#### ECONOMIC REGULATION

Considerable economic regulation was provided by all three authors. Plato, holding that virtually all dealings between man and man must be "regulated" (922), prescribed that goods be sold at specified places and at only moderately profitable prices, to be fixed by the state, which also was charged to penalize adulteration as well as misrepresentation of goods (915-920). No lending at interest was allowed (742), though a heavy carrying charge was imposed for non-payment of craftsmen, etc. (921). Plato's view, in essence, was that trading, profit, and abundance were fatal.

<sup>23</sup> See *The Complete Writings of Thucydides* (Modern Library) (New York, 1934), Bk. II, chap. 6; also my "Herodotus on the Subject Matter of Economics," *Scientific Monthly* 81 Dec., 1955): pp. 276-285.

to a State, tending to prevent "the attainment of just and noble sentiments" (704-705, 919-920).<sup>24</sup>

While Kautilya's economy was more flexible than Plato's and Lord Shang's, one-third of his manual was devoted to the regulation of economic relations and the technology of production (2; 3.1, 11-15; 4.1-2). Profit was not disparaged, however, so long as prices did not exceed costs too markedly and interest rates did not exceed legal levels which corresponded roughly to the degree of risk involved (2.16, 21; 4.2). The obligations of employers and employees (including slaves) and of partners in undertakings were indicated, in so far as these were not covered by satisfactory customary and guild law (3.13-14).

Lord Shang seems to have found in price variation a supplementary instrument suited to his objectives, which at times smack of those of a nation in arms (12, 19). Not only must four-tenths of the land be cultivated, but the price of grain should be such as to satisfy both farmer and consumer and, when coupled with the suppression of gain in non-agricultural undertaking, assure an adequate number of cultivators. The state itself must stabilize the price of grain through a system of buying, storing, and selling grain, designed also to meet military needs (2.6; 15, 20, 22).<sup>25</sup> All trade should, of course, be kept at a bare minimum (4, 13), in part by imposing very heavy taxes on what merchants sell and thereby forcing them to price themselves out of the market (2).

Regulation requires precision, as Lord Shang observed (5, 26) though not too much, Aristotle might have added.<sup>26</sup> Accordingly, Shang stressed the importance of precise and standardized weights and measures (8, 14, 26) as did Kautilya (2.19) whose concern included both the conduct of state enterprise and the relations of inhabitants to the state and to each other. Plato merely indicated the need for commensurable coins, weights, and dry and liquid measures (746), though in his discussion of "justice" and "equality" he emphasized the importance of "proportion" to realizing precision in the definition of each (757).<sup>27</sup>

Corollary to the regulation of economic and other activities was careful specification of the

layout of the capital city and even of the pattern of population distribution. Most elaborate is Kautilya's layout, together with the country's fortifications, communications, and village-town structure (2.1-4). Lord Shang was opposed to population scatter (3) and indicated the need of both market-places (9) and defensible walled cities (12); he allotted four-tenths of a state's population to "cities, towns, and highways" (6). Plato specified how the land, people, and hamlets were to be distributed (745, 848), where the highways were to be located (761, 763), and how the city, together with its temples, courts, buildings, fortifications, and walls, was to be placed (778, 779).<sup>28</sup>

#### INTERNATIONAL RELATIONS

Given the conditions of transportation then obtaining, a more complete and systematic model than Kautilya's "circle of kings," together with its implication for foreign policy, is hard to imagine. It embodied use of balance of power,<sup>29</sup> along with suggestions for the conduct of international war and the assessment of factors significant for making peace and restoring international stability (6; also 7-14 *passim*). Plato, by contrast, says almost nothing of international relations, describing even foreign trade as a corrupting influence (704-705) and not contemplating expansion through recourse to maritime war (706-708). Plato's state, however, enjoyed an advantage over Kautilya's and Lord Shang's in that the ties of patriotism binding together Greek citizens were far more powerful than those found in the worlds of Kautilya and Shang.

Lord Shang took it for granted that strong countries sought to annex their neighbors whereas weaker ones had to defend themselves against annexation (3, 7). Strong leadership was essential to such defense (18), together with suitable rewards and the suppression of "depraved doctrines" (19, 22). He commented also on what military policy was appropriate (11, 15). His conception of international relations thus was mili-

<sup>28</sup> Surrounding a city with walls was not "conducive to the health of cities" or to the alertness of its population; but when done, the walls should be formed of private houses (779). See also Morrow, *op. cit.*, pp. 182-187.

<sup>29</sup> On Mauryan and pre-Mauryan foreign policy, see George Modelski, "Comparative International Systems," *World Politics* 14 (1962); p. 665; T. B. Mukherjee, *Inter-State Relations in Ancient India* (Calcutta, 1967).

<sup>24</sup> See also Morrow, *op. cit.*, chap. 4.

<sup>25</sup> Duyvendak, "Introduction," *loc. cit.*, pp. 44, 51-53, 86, 90-91, on what may be Shang Yang's views and what may be the views of others.

<sup>26</sup> *Eth. Nic.*, 1094b, 27-28.

<sup>27</sup> Morrow, *op. cit.*, chap. 10.

tarily oriented, but far more primitive than Kautilya's.

### INCENTIVES

Incentives and rewards played a far less important role in Plato's state than in those of Kautilya and Lord Shang. This was true even of taxes, which amounted to negative incentives unless they operated through the medium of income effects to evoke greater effort.<sup>30</sup> Public expenditure in Plato's state was relatively small, "honor" constituting the reward of the citizen soldier (921-922), though some foreign and domestic undertakings were bound to be expensive (e.g., 742, 804, 813, 950-951). Since the state derived no revenue from public land and mines, from tribute, or from taxes on trade and metics (847, 850), it had to depend upon fines, upon levies imposed on property, and upon expropriation of property holdings in excess of the permissible maximum (754, 850, 855, 955). In effect, Plato counted upon the advantages to be had from living in his state to animate most men to do their best, given punishment for infraction of its laws (e.g., 735-736, 741-744, 777, 860-874, 914-915).

According to Lord Shang, self-interest must be completely subordinated to law so that individuals would find it worth while to comply with law (14), impelled thereto by the threat of heavy penalties and the promise of small rewards (5, 13, 17, 19-20, 24). "Uniformity of purpose" is produced by a suitable "system of rewards and penalties" (3), but with the rewards based only upon merit (8). The ruler must, therefore, control "the handle of fame and profit" (6). In keeping with this philosophy, as already noted, Lord Shang recommended use of the tax system in such wise as to encourage agriculture. He favored very heavy taxes upon non-agricultural undertakings and, at least for a time, light taxes upon agriculturalists; then workers would prefer agriculture and immigrants would be attracted thereto (2, 15).<sup>31</sup>

Kautilya's system of rewards and penalties was much more complicated than those of Plato and Lord Shang. He counted far more on positive and negative incentives and far less on patriotism

or recourse to force. The ruler drew revenue from over sixty sources, including income from royal property, an agricultural tax of one-sixth of the produce, and a large number of fines, duties, taxes, and miscellaneous sources. Some of these taxes were to be increased in times of emergency, and some were to be temporarily reduced in order to stimulate settlement and economic development (see Books 2; 5; 3.9-10). Excessive taxation was discouraged; it tended to be self-destructive. The ruler was therefore advised to "take from the kingdom fruits as they ripen" but "avoid unripe (fruit) that causes an uprising, for fear of his own destruction" (5.2.70). While Kautilya suggested that state officials and bureaucrats be well paid in order to insure their loyalty (2.1; 5.3), he did not neglect precautions (2.8-21). As a rule, "the ability of a person" was judged from his "capacity for doing work" (1.8.28).

### CONCLUSION

One might draw many inferences from the works of our three authors. There is time, however, only for four. First, though each had in view an essentially static state, none recognized the degree to which a state's institutional structure might be so constructed as to give force to homeostasis, to Adam Smith's Unseen Hand.<sup>32</sup> Second, there is manifested in Plato's work relatively much more of that spirit of inquiry and capacity for generalization characteristic of subsequent European thought. His task was an easier one, of course, in that his state was simpler and more hypothetical, and carried out in a community in which citizens enjoyed much discretionary time for discussion, thanks to slavery, tribute, the simplicity of Greek tastes and diet, and the fact that

<sup>30</sup> Plato did, of course, say that one might infer that "no mortal legislates in anything, but that in human affairs chance is almost everything," or "that God governs all things, and that chance and opportunity cooperate with Him in the government of human affairs" *Lysis* (709). The School of Taoism, antithesis of the School of Law, did count on the adequacy, or at least the potential adequacy, of *laissez faire* to produce order, to secure government through non-government. "Follow the spontaneity of things and hold within you no element of ego. Then the empire will be governed." So reads the *Chung-tzu*. Or, as put by Fung Yu-Lan, "Since good order is generally desired, one need only let things alone, and good order will result spontaneously." On these matters see Fung Yu-lan, *op. cit.*, chaps. 8, 10, esp. pp. 186ff, 228ff. See also Duyvendak, "Introduction," *loc. cit.*, pp. 88ff.

<sup>31</sup> E.g., see R. A. Musgrave, *The Theory of Public Finance* (New York, 1959), pp. 150ff.

<sup>32</sup> Under the Ch'in the land tax amounted to 1/15 of the produce; earlier it had amounted to about 1/10. See Duyvendak, "Introduction," *loc. cit.*, pp. 42-47, 53-54.

for them time was not yet money.<sup>33</sup> Third, it is paradoxical that Plato's state, similar to actual Greek states in size, was so much smaller than those of Shang and Kautilya when only Plato's state seems capable of generating that spirit of agreement essential to the construction of a really unified state. Fourth, we require a much deeper understanding than we have of Western and East-

ern civilization if we would effectively contrast the two.<sup>34</sup> We need also to know more about the effect of size of state upon political theory in Asia as well as Europe.<sup>35</sup>

<sup>34</sup> F. S. C. Northrop undertook such a comparison in *The Meeting of East and West* (New York, 1946).

<sup>33</sup> Money-grubbing did not yet dominate the concerns of Athens' citizenry. See H. Bolkestein, *Economic Life in Greece's Golden Age*, revised by E. J. Jonkers (Leiden, 1958), pp. 152-154. Between 447 and 438 B.C., "the Athenian state spent more than half its yearly income (chiefly formed by the contributions of the allies) on the erection of temples, images and other adornments of the Acropolis" and the support of "numerous public festivities." *Ibid.*, p. 152.

<sup>35</sup> The noble Chinese statesman, Tzu-ch'an, head of the very small, ancient city-state of Cheng (572-522 B.C.), believed this form of state most conducive to virtue and attempted to demonstrate his views and refute those of the Legalists as well as Confucian reliance upon the moral qualities of the ruler. Yet, in the end, he concluded that "severity" was the best means by which "to keep people in submission. . . . It is difficult to govern by clemency." See V. A. Rubin, "Tzu-ch'an and the City-State of Ancient China," *Toung Pao* 52 (1965-1966): pp. 8-34, esp. p. 34.

# EPITHELIAL OSTEOGENESIS—A BIOLOGICAL CHAIN REACTION\*

CHARLES HUGGINS

William B. Ogden Distinguished Service Professor and Director, Ben May Laboratory  
for Cancer Research, University of Chicago

(Read April 24, 1969)

FOR A MILLENNIUM one of the most alluring problems of science has been the transmutation of matter wherein one substance is converted into another. To the alchemist, metals were of prime attraction—for example the conversion of lead to gold. The approach of the alchemist was commercial and hopeful but despair set in as countless attempts at transmutation failed.

In modern times success in the transformation of matter has been achieved both in biology and physics—the living and the non-living. The problem is fascinating, the methods so simple and dramatic, the results utterly unexpected and the utility so spectacular that an aura of apparent witchcraft develops in the beholder of the successful experiments as great effects emerge in a surprising way.

In physics one of the most notable transmutations was the fission of  $U^{235}$  brought about by neutron bombardment by Otto Hahn.<sup>1</sup>

The present discourse concerns two sorts of transformations of living cells. In biology, transformation is the ability to induce in living cells predictable and specific changes which thereafter can be transmitted in series as hereditary characters.

Transformation of bacteria was first achieved by Griffith, a medical officer of the Ministry of Health of Great Britain. In a classical experiment<sup>2</sup> dealing with pneumococci it was found:

The inoculation into the subcutaneous tissues of mice of an attenuated R strain derived from one type together with a large dose of virulent culture of another type killed by heating to 60°C has resulted in

the formation of a virulent S pneumococcus of the same type as that of the heated culture.

Subsequently in one of the great experiments of the age, Avery, MacLeod and McCarty<sup>3</sup> presented evidence that:

A nucleic acid of the deoxyribose type is the fundamental unit of the transforming principle of *Pneumococcus* Type III.

This paper is concerned with a useful method wherewith a unique sort of chain reaction is initiated in animal cells resulting in a profound change in their phenotype persisting throughout life; cancer is not induced.

The ability to transform a particular cell of an animal into a normal cell of a different sort is latent in many epithelia and other tissues. Epithelial osteogenesis results when an inducing epithelium transforms a responsive cell into bone: now fibroblast is turned into osteoblast; soft tissue becomes hard. Transformation into cartilage does not occur. This dramatic potential of the transforming epithelium is dormant under natural conditions and so remains for countless generations, but it can be activated suddenly by experimental procedures which bring together the reacting cells. How can the transformation be demonstrated simply? What is its nature?

In epithelial osteogenesis the formation of bone is a function of a transforming agent acting upon cells competent to respond. All that is required for the induction of bone is the approximation of epithelial transformer and responding fibroblast.

Transformation of responsive cells by epithelium was found to occur in two experiments on dogs.<sup>4</sup>

\* This work was supported by grants from the American Cancer Society and Jane Coffin Childs Memorial Fund for Medical Research.

<sup>1</sup> O. Hahn, "From the Natural Transmutations of Uranium to its Artificial Fission," in *Nobel Lectures—Chemistry 1942-62* (Amsterdam, Elsevier Publishing Company) 51 (1964).

<sup>2</sup> F. Griffith, "Significance of Pneumococcal Types," *Jour. Hygiene*, 27, 113 (1928).

<sup>3</sup> O. T. Avery, C. M. MacLeod, and M. McCarty, Studies on Chemical Nature of Substance Inducing Transformation of Pneumococcal Types; Induction of Transformation of Desoxyribonucleic Acid Fraction Isolated From *Pneumococcus* Type III, *Jour. Exper. Med.* 79, 137 (1944).

<sup>4</sup> C. Huggins, "Influence of Urinary Tract Mucosa on the Experimental Formation of Bone," *Proc. Soc. Exp. Biol. & Med.* 27, 349 (1930).



(1) Bone formed in a patch of fascia which was used to repair a surgical defect in the fundus of the bladder from which the urine was excluded permanently. (2) A chunk of bone was produced when a segment of the whole bladder wall or the mucosal lining alone was transplanted to the dog's own fascia. In control experiments bone did not develop when bladder wall minus the mucosa was transplanted in like manner. Transitional epithelium (TE) such as lines the bladder, was necessary for this transformation. The ossicle which had been created became populated with hemopoietic bone marrow and both of these elements persisted more than two years in autologous transplants. Experimental approximation of the reactive cells had set in motion a train of big events.

In these definitive experiments it was learned that a powerful ability to transform responsive fibroblasts resides in vesical mucosa. Either the responsive cells were present at the time of transplantation<sup>4-6</sup> or they soon appeared on the scene in many tissues—fascia, fat, synovia, omentum, and in peritoneum. Other cells were non-responsive; these include fibroblasts in the submucosa of the bladder<sup>5,6</sup> and those in the interior of liver, spleen, and renal cortex.

If the submucosal fibroblasts of the bladder were responsive to the powerful transforming action of TE, the bladder would be expected to ossify frequently; but bone is not known to occur in this organ. But the neighboring subserosal cells of the bladder are responsive so that ossification<sup>6</sup> occurs when a segment of the vesical mucosal lining is sutured to the external surface of the canine bladder. In short, cells on the outside of the bladder ossify whereas those on the inside are not responsive to the transforming agent.

The transforming epithelia include TE and the epithelium of the gall bladder.<sup>7</sup> In addition dentin,<sup>8</sup> an epithelial derivative, can induce bone

in the responsive cells. Urist<sup>8,9</sup> discovered that allogeneic transplantation of decalcified lyophilized tissues could induce ossification in the afore-mentioned responsive cells; the effective devitalized transforming agents are dentin, bone, and cartilage.

The transforming agent in TE can act at a considerable distance. Friedenstein<sup>10</sup> placed cells of the bladder in a sealed diffusion chamber which was implanted beneath the skin or in the peritoneal cavity of a guinea pig. Bone formed in cells on the outside of the chamber but not inside despite the fortuitous admixture of fibroblasts from the tunica propria of the bladder with transforming epithelium. In an extension of this work, introduction of a suspension of peritoneal cells or leukocytes with TE resulted in osteogenesis within the diffusion chamber.

Friedenstein<sup>11,12</sup> found that the inducing factor possesses no great individual specificity. Allogeneic transplantation of TE induces a large piece of bone which succumbs after 3 to 11 weeks; the ossicle is then resorbed. It would appear that bone tissue by TE requires the continuous influence of the inductor and is not a self-maintaining system.

Epithelial osteogenesis occurs in animals of many species but there are differences between some of these in the incidence and magnitude of the effect. In transplants of TE to fascia, the inducing activity is greatest in the dog,<sup>4</sup> guinea pig,<sup>6</sup> and cat,<sup>13</sup> intermediate in the rat<sup>6,14</sup> and lowest in the rabbit.<sup>4</sup> The formation both of

<sup>8</sup> M. R. Urist, "Bone Formation by Autoinduction," *Science*, **150**, 893 (1965).

<sup>9</sup> M. R. Urist, T. A. Dowell, P. H. Hay, and B. S. Strates, "Inductive Substrates for Bone Formation," in *Clinical Orthopaedics and Related Research* (ed. by Urist, M. R.) **59**, 59 (Philadelphia, J. B. Lippincott, 1968).

<sup>10</sup> A. J. Friedenstein, "Humoral Nature of Osteogenic Activity of Transitional Epithelium," *Nature* **194**, 698 (1962).

<sup>11</sup> A. J. Friedenstein, "Induction of Bone Tissue by Transitional Epithelium," in *Clinical Orthopaedics and Related Research* (ed. by Urist, M. R.) **59**, 21 (Philadelphia, J. B. Lippincott, 1968).

<sup>12</sup> A. J. Friedenstein, "Histogenesis of Ectopic Bone Induced by Transitional Epithelium," *Proc. Acad. Sci. USSR* **108**, 359 (1956).

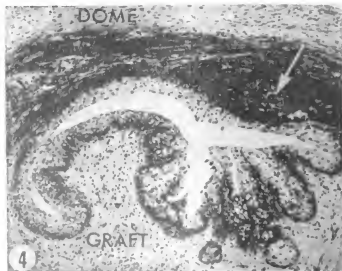
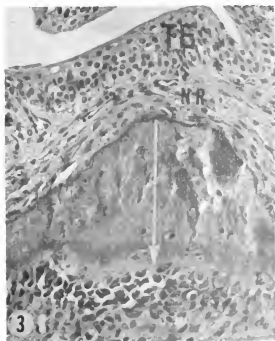
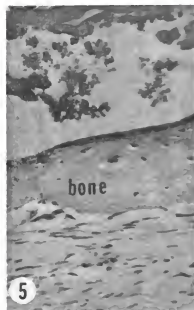
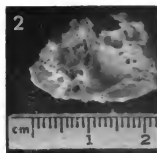
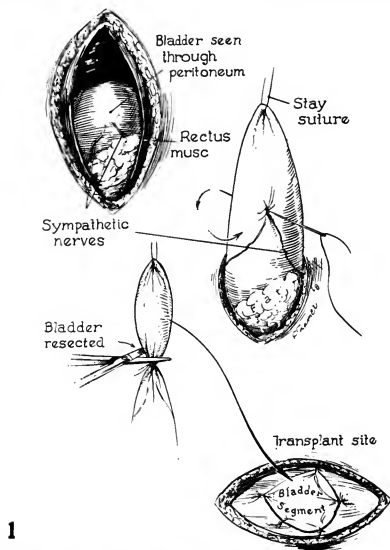
<sup>13</sup> F. R. Johnson and R. M. McMinn, "Behaviour of Implantation Grafts of Bladder Mucosa," *Jour. Anat.* **89**, 450 (1955).

<sup>14</sup> A. J. Friedenstein and K. S. Lapykina, "Peculiarities of Properties of Rat Transitional Epithelium in Conditions of Transplantation," *Bull. Exp. Biol. Med.* **55**, 104 (1963).

<sup>5</sup> C. B. Huggins, "Formation of Bone Under Influence of Epithelium of Urinary Tracts," *Arch. Surg.* **22**, 377 (1931).

<sup>6</sup> C. B. Huggins, H. R. McCarroll, and B. H. Blocksom, Jr., "Experiments on Theory of Osteogenesis; Influence of Local Calcium Deposits on Ossification; Osteogenic Stimulus of Epithelium," *Arch. Surg.* **32**, 915 (1936).

<sup>7</sup> C. B. Huggins and J. F. Sammet, "Function of Gall Bladder Epithelium as Osteogenic Stimulus and Physiological Differentiation of Connective Tissue," *Jour. Exper. Med.* **58**, 393 (1933).



FIGS. 1-5.

bone and of red bone marrow in the ossicle is particularly extensive in the guinea pig.

In the dog, transplants of TE to fascia induce the formation of alkaline phosphatase<sup>15</sup> in the responding fibroblasts and very high values are obtained when ossification occurs. In addition Kagawa<sup>16</sup> found that aminopeptidase and lactic dehydrogenase appeared in connective tissue around transplanted mucosa.

#### AUTOLOGOUS TISSUE TRANSPLANTATION IN GUINEA PIG

In our standard method it was convenient to transplant 6 grafts of tissues in each guinea pig. These always included: (a) TE; (b) gall bladder; (c) skin; (d) samples of other tissues under investigation. The reception sites were the internal oblique muscles in each abdominal quadrant and in each loin. The size of the transplant was about 2-3 cm<sup>2</sup>. Samples *a* and *b* will always transform responsive cells; *c* has never induced bone.

A guinea pig weighing 0.5-0.8 kg is anesthetized lightly with ether and tied to a restraining board. A metal tube is inserted between the jaws as a mouth gag to prevent asphyxia.

*Transplantation of TE.* With aseptic precautions, an incision is made from the umbilicus to the symphysis pubis and the rectus muscles are separated by blunt dissection. In the female guinea pig, but not in the male, the glistening surface of the full bladder can be seen before the peritoneal cavity is entered. The bladder is transfixed just above the junction of 2 large sympathetic nerves (fig. 1); it is ligated with fine strong silk only once and very tightly. The fundus of the bladder is resected leaving a cuff *ca.* 0.5 cm distal to the ligature. The operative incision is

closed in layers. The day of operation is counted as day 0.

*Cholecystectomy.* An incision 3 cm long is made in the midline of the epigastrium; the rectus muscles are separated by blunt dissection. Usually the dark-green gall bladder, always full of bile, can be seen through the peritoneum. It is separated from the liver by blunt dissection; the cystic duct is ligated and the gall bladder resected. The incision is closed in layers.

*Transplantation of skin.* An oval piece of full thickness of the shaved skin is excised and sutured hair-surface down on the internal oblique muscle. The incision is closed in layers over the transplant.

#### THE OSSEOUS TRANSFORMATION

The standard transplantation technique was carried out in thirty consecutive guinea pigs without fatality. Three sorts of epithelium induced osteogenesis: TE; gall bladder; seminal vesicle. In the epithelium-lined cysts which develop in the interior of the body after transplantation a cardinal difference exists between the *graft* (original transplant) and the *dome* of the cyst (new epithelium); ossification occurs only in cells next to the dome.

*Transitional epithelium.* In their growth, grafts of TE exceed transplants of all other epithelia which I have investigated in two respects: (a) epithelium grows more rapidly to form a cyst; (b) massive amounts of bone (fig. 2) are created.

The transplant of TE grew by lateral extension to form a large cyst which was completely closed on day 7; at this time the epithelial lining of the cyst is thick in the graft and tapers to a single cell in thickness in the dome; the cyst is filled with clear fluid. Small dark curvaceous cells (fig. 3) appear—these are the transformed cells now become osteoblasts. In microscopic sections spicules of bone were occasionally seen on day 10 and they were common on day 11. A thin disc of bone always was macroscopically evident on day 12 and on subsequent days, in 134 consecutive

<sup>15</sup> C. B. Huggins, "Phosphatase Activity of Transplants of Epithelium of Urinary Bladder to Abdominal Wall Producing Heterotopic Ossification," *Biochem. Jour.* **25**, 728 (1931).

<sup>16</sup> S. Kagawa, "Enzyme Histochemistry of Bone Induced by Urinary Bladder Epithelium," *Jour. Histochem. Cytochem.* **13**, 255 (1965).

FIG. 1. Transplantation of urinary bladder of guinea pig.

FIG. 2. Bone in muscle 8 months after autologous transplantation of urinary bladder in guinea pig.

FIG. 3. Polarization of ossification in an autologous transplant of bladder to muscle on day 24. Below the transforming epithelium (TE) a layer of non-responsive fibroblasts (NR) separates it from the induced bone (arrow). Osteoblasts are absent from the top of the piece of bone but are abundant on its inferior surface (tip of the arrow).  $\times 350$ .

FIG. 4. Epithelium-lined cyst on day 12 after transplantation of transitional epithelium to fascia; the arrow points to bone which has been induced. The responsive fibroblasts in the dome are heavily infiltrated with alkaline phosphatase whereas non-responsive fibroblasts in the graft are devoid of this enzyme.  $\times 100$ .

FIG. 5. Bone in muscle 66 days after autologous transplantation of seminal vesicle in guinea pig.  $\times 200$ .

guinea pigs in which TE was transplanted. After about four weeks (the time was not determined precisely) the newly induced bone became populated with hemopoietic bone marrow; then the bone was pink.

Ossification induced by TE arose in osteoblasts immediately adjacent to epithelial cells (fig. 4) in the dome. At first the new bone was completely surrounded as an island by osteoblasts but this proximity did not persist. Within three weeks a layer of non-responsive fibroblasts (fig. 3) intervened to separate the transforming epithelium from the bone and thereby osteoblastic activity was quenched in this zone of contact. Subsequently ossification was polarized (fig. 3). Ossification developed because the newly formed bone itself invaded and transformed responsive cells and in a centrifugal direction (with respect to the inducing epithelium) whereas bone formation ceased in the layer of non-responsive fibroblasts. Bone continued to form and it was very dense after a few months.

Alkaline phosphomonoesterase (3.1.3.1) was determined by chemical<sup>17</sup> and histologic<sup>18</sup> methods in both the graft and the dome of the cyst. On day 1, the content of alkaline phosphatase had decreased in the graft; on days 8 and 10 the enzyme levels in both dome and graft were low; on day 11 the content of alkaline phosphatase in the dome, but not in the graft, had increased to a high level (fig. 6).

This remarkable effect was confirmed by the histochemical distribution of alkaline phosphatase in responsive cells of the connective tissue in grafts of TE to muscle. Fibroblasts adjacent to the newly formed epithelium in the dome of the cyst had a dense accumulation of alkaline phosphatase (black in fig. 4) whereas fibroblasts in the graft were devoid of the enzyme. The accumulation of alkaline phosphatase in the responding fibroblasts was evident on day 7 and increased to become particularly heavy around the centers of ossification.

**Gall bladder.** Bone was induced in transplants of strips of gall bladder to the abdominal muscle, in 10 consecutive guinea pigs. The epithelium grew at a slow rate in the grafts. Early growth

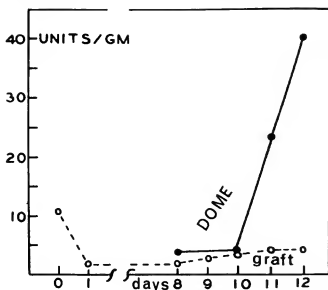


Fig. 6. Alkaline phosphatase content of graft and dome of cysts induced by autologous transplantation of TE to muscle in guinea pigs. One unit is defined as that enzyme activity which liberates 1  $\mu$ mole of *p*-nitrophenol/0.5 hr under stated conditions.

was evident as proliferation of the epithelium formed tiny glands; on day 16, hundreds of spicules of bone were found closely associated with these newly formed glandules. Hemopoietic bone marrow was observed after six weeks. Cysts of transplanted gall bladder epithelium always formed around a blood clot. The cysts did not attain the large size of those induced by TE.

In the normal gall bladder, alkaline phosphatase is present in the capillaries and absent from the epithelium and the connective tissue of the wall. In transplants very large quantities of alkaline phosphatase are induced in responsive fibroblasts.

**Seminal vesicle and skin.** The seminal vesicle was resected and sectioned lengthwise and oblong strips were sutured to muscle of the abdominal wall in fourteen adult guinea pigs; bone (fig. 5) formed in eight animals. It was first detected on day 22-27. Large cysts did not form in contrast to those evoked by transplants of TE of similar size. Bone formation was closely associated with the newly formed epithelium of the graft of seminal vesicle.

In twenty cases grafts of skin were transplanted to the abdominal muscle. Epithelium-lined cysts were present after four months, though not in one month, and bone did not develop. It is remarkable that infection did not develop in any of these subcutaneous grafts of skin.

<sup>17</sup> C. Huggins and S. Morii, "Selective Adrenal Necrosis and Apoplexy Induced by 7, 12-Dimethylbenz(a)-anthracene," *Jour. Exp. Med.* 114, 741 (1961).

<sup>18</sup> G. Gomori, *Microscopic Histochemistry: Principles and Practice* (Chicago, University of Chicago Press, 1952).

## DISCUSSION

A biologic chain reaction can be started easily by the simple method which has been described. In epithelial osteogenesis the chronologic sequence of events is: epithelial proliferation; *de novo* induction of enzymes; transformation of responding cells to osteoblasts; formation of bone in a polarized direction; population of bone with hemopoietic bone marrow; continued centrifugal invasion of connective tissue with ceaseless transformation of responsive fibroblasts to osteoblasts. The chain reaction is progressive. It is a lifelong self-renewing process in autologous transplants of transforming epithelium.

Epithelial osteogenesis is a unique sort of change in the cell. It is a conditional mutation because

it is dependent on the presence and viability of the transforming epithelium. For, in allogeneic transplantation, the chain reaction is terminated in a late stage when much bone has formed and the products disappear<sup>12</sup> when the transforming epithelium suffers immunologic rejection.

## CONCLUSION

The power to transform cells of the connective tissue into bone is an attribute dormant in many animal tissues but readily awakened by contact with responsive cells. Approximation of transforming and responsive cells starts a chain reaction including the induction of alkaline phosphatase in the latter.

# GEOGRAPHIC AND DEPTH DISTRIBUTION OF THE PHYLUM ECTOPROCTA FROM 200 TO 6,000 METERS

THOMAS J. M. SCHOPF

Department of Geological Sciences and Center for Marine and  
Environmental Studies, Lehigh University\*

## INTRODUCTION

THE PHYLUM ECTOPROCTA (commonly referred to as bryozoans) includes some 3,000 Recent species and 15,000 fossil species. The organisms are sedentary and colonial with individual members of a colony about 1 millimeter long (Hyman, 1959). Colonies may be many centimeters to a meter (or more in extreme cases) in length. These are important fouling animals on ships, buoys, pilings, and indeed, on nearly every type of hard substratum in the marine environment. In shallow waters of the continental shelf of the world, extensive faunas exist from the arctic to antarctic, in all oceans.

Knowledge of the abundance and distribution of ectoprocots in the deep sea is part of understanding the nature of its benthic life. For example, part of the recent discussion of the age of this fauna concerns whether or not ectoprocots are important deep-sea elements (Menzies and Imbrie, 1958; Zenkevich and Birstein, 1960; Menzies, Imbrie and Heezen, 1961; Clarke, 1962b). The question of the existence of a separate hadal fauna is partly related to knowing whether or not ectoprocots are significant in deep water (Wolff, 1960; Menzies and George, 1967). Several phyla are represented by fewer species per station as depth increases (Zenkevich and Birstein, 1956; Vinogradova, 1962), but evidence has not been summarized for other groups, including ectoprocots. Topographic features of the deep sea may be important in determining biogeographic boundaries (Vinogradova, 1959) but this needs further testing.

Data presented here may be of use in elucidating some of these ideas of deep-sea biology, and in suggesting an adequate test for others. The aim of the paper is to present what is known of, and to indicate a few reasons for, the geographic and depth distribution of ectoprocots. Extensive data

are given to elucidate a preliminary note on this topic (Schopf, 1968).

## MATERIALS AND METHODS

In recent years special attention has been given to new sampling devices for capturing marine bottom dwellers. Prominent examples are the anchor dredge (Sanders, Hessler and Hampson, 1965) and the epibenthic sled (Hessler and Sanders, 1967) which were designed to capture the many small and delicate deep sea forms. With their use, followed by careful handling, large collections of invertebrates, including ectoprocots, have been made.

A framework was lacking within which the significance of these and other new collections could be judged. Accordingly, depth and distributional data for ectoprocots from depths between 200 and 6,000 meters were assembled. Data of all animals from depth greater than 6,000 meters were recently summarized (Wolff, 1960). The depth of 200 meters was chosen because it is an approximate boundary between the continental shelf and continental slope. Along the east coast of the United States, the shelf-break varies from 10 to 160 meters (Uchupi, 1968: fig. 10), and on a world-wide scale ranges up to 550 meters and averages 133 meters deep (Shepard, 1963: p. 257). This natural physiographic feature forms an exceptionally strong biogeographic boundary because the important biological variables of temperature, sediment, and light are relatively constant on the continental slope and deeper.

Most of the records for deep-water stations (table 1) are between 200, and 1,000 meters deep. Although some others might be added to this listing from non-Russian sources, these would probably contribute little to the general results. Like those here assembled, these stations would probably be in water of less than 1,000 meters. A more serious omission would be a lack of results from recent Russian expeditions to the Pacific.

\* Present address: Department of the Geophysical Sciences, University of Chicago.

Papers on deep-water ectoprocts from these collections, if described, are not known to me.

#### GEOGRAPHIC DISTRIBUTION

Ectoprocts occur in all oceans (fig. 1). Oceanic ridges and rises (whether seismic or aseismic) possibly influence the lateral distribution of these and other benthic organisms (Vinogradova, 1959). In all, about 40-50 major ocean basins may eventually yield material, but at present they are known from only about a dozen. This contrasts with abyssal mollusks, which are more conspicuous and more common than ectoprocts, and which have been dredged from "approximately 42 of the 47

ocean basins which have been treated by the author as distinct (Clarke, 1962a)" (Clarke, 1962b).

Fifty-five per cent of the stations that have yielded ectoprocts are from the North Atlantic, but this basin includes less than 20 per cent of the world's ocean bottom (Menard and Smith, 1966). In all oceans many collections are associated with islands and adjacent ridge systems. Reading the narrative of the *Challenger* expedition (Murray, 1895a, 1895b), for example, indicates how much more intensively the areas near islands were sampled compared with the open ocean regions. These biases of the available data seem related to the historical concentration of oceanographic interest in institutions of western

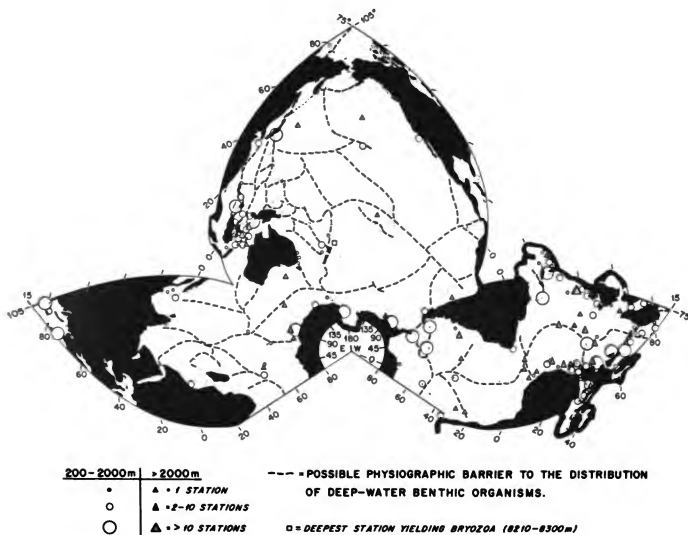


FIG. 1. Geographic distribution of ectoprocts from depths greater than 200 m. (sources in table 1). The deepest station (north of New Zealand in the Kermadec-Tonga Trench) is from Wolff (1960). The presentation of topography is intended to relate stations on a physiographic basis in an attempt to show possible barriers to dispersal (Lotz projection after the *Times Atlas*, Bartholomew, 1958: p. 1, 2). Topography is from Menard (1959, 1964, 1965, 1967), Anderson (1952), U. S. Naval Oceanographic Office (1952), and the National Geographical Society (1965, 1967, 1968).

TABLE 1.

SUMMARY OF PUBLISHED REPORTS (INCLUDING 703 STATIONS) ON ECTOPROCTS FROM DEPTHS GREATER THAN 200 METERS ARRANGED BY DECREASING NUMBER OF DEEP-WATER STATIONS. Considering papers with 5 or more stations, those of Hastings (1943), Kluge (1914), Hasenbank (1932), and Menzies (1963) consider only a few families, whereas the remaining papers comprise all or the majority of ectoproct collections from an area or expedition.

Chief Sources	Year	Area of Investigation	Number of Stations	Reference
1. Tromsø Museum collections	various	Arctic	79	Nordgaard, 1900, 1907, 1918; Bidekap, 1900; Levinsen, 1914.
2. <i>Discovery</i>	1925-1933	Antarctic, South Atlantic, South Pacific	56	Hastings, 1943; Powell, 1967.
National Antarctic Expedition	1901-1914	do		
British Antarctic Expedition, <i>Terra Nova</i>	1910	do		
Shackleton-Rowett Expedition, <i>Quest</i>	1922	do		
3. <i>Challenger</i>	1872-1876	Atlantic, Pacific, Indian	54	Busk, 1881, 1884, 1886; Waters, 1889; Murray, 1895a, 1895b.
4. <i>Siboga</i>	1899-1910	Southwestern South Pacific (Malaysia)	54	Harmer, 1915, 1926, 1934, 1957; Tydeman, 1902.
5. Monaco Expeditions	1888-1912	Eastern North Atlantic	48	Calvet, 1931.
6. Woods Hole Oceanographic Institution collections	1960-1967	Western North Atlantic	38	Under study.
7. U. S. Coast Survey	1867-1869	Western North Atlantic	32	Smitt, 1872, 1873; Pourtales, 1867.
8. <i>Travailleur</i> and <i>Talisman</i>	1881-1883	Eastern North Atlantic and Mediterranean	29	Calvet, 1906a, 1906b, 1906c.
9. German South-Polar Expedition, <i>Gaus</i>	1901-1903	Antarctic	26	Kluge, 1914.
10. Various	various	Mediterranean	25	Gautier, 1961; Barroso, 1935; Waters, 1898.
11. Various	1899-1907	Eastern North Atlantic (Ireland)	21	Nichols, 1911; Duerdin, 1893; Kirkpatrick, 1889.
12. <i>Albatross</i>	1883-1888	Gulf of Mexico	20	Canu and Bassler, 1928b.
13. Various	1899-1900	Northeastern North Atlantic (Norwegian Fjords)	20	Nordgaard, 1905, 1931, 1932; Sars, 1872.
14. <i>Albatross</i>	1908-1909	Southwestern South Pacific (Philippines)	18	Canu and Bassler, 1929.
15. Various	various	North Atlantic	18	Silén, 1924b, 1947, 1951b; Canu and Bassler, 1928c; Barroso, 1912.
16. Various	various	Northeastern North Atlantic, Arctic	18	Smitt, 1867, 1868; Sars, 1868; Andersson, 1902.
17. <i>Sadko</i> and <i>Sedova</i>	1937-1938	Arctic	12	Gorbulnov, 1946.
18. Belgian Antarctic Expedition, <i>S. Y. Belgica</i>	1897-1899	Antarctic	12	Waters, 1904a.
19. German Deep-Sea Expedition, <i>Valdivia</i>	1898-1899	Antarctica, Atlantic, Indian	11	Hasenbank, 1932.
20. <i>Hirondelle</i>	1886-1888	Eastern North Atlantic	11	Jullien and Calvet, 1903.
21. Various	various	Gulf of Mexico	11	Lagaaij, 1963.
22. <i>Albatross</i>	1891; 1901-1910	Central North Pacific (Hawaii)	7	Canu and Bassler, 1927.
23. <i>Godthaab</i> Expedition	1928	Northwestern North Atlantic (Baffin Bay)	7	Hansen, 1962.
24. Australasian Antarctic Expedition	1911-1914	Antarctic	7	Livingstone, 1928; Thornely, 1924.



TABLE 1—*Continued*

Chief Sources	Year	Area of Investigation	Number of Stations	Reference
25. Prof. Dr. Sixten Bock's Expedition	1914	Western North Pacific	7	Silén, 1938, 1942a, 1942c 1947.
26. <i>Caudan</i>	1895	Eastern North Atlantic	6	Calvet, 1896; Koehler, 1896.
27. <i>Vema</i>	not given	Eastern South Atlantic	5	Menziés, 1963.
28. Various	various	Western North Pacific (Japan)	5	Ortmann, 1890.
29. Jackson-Harmsworth Expedition	1896-1897	Arctic	5	Waters, 1900, 1904b.
30. International Polar Expedition	1882-1883	Arctic	4	Lorenz, 1886.
31. Various	various	Northern Indian Ocean	4	Robertson, 1921.
32. Various	various	Northwestern North Atlantic (Gulf of Maine)	4	Smith and Harger, 1874; Verrill, 1875, 1879.
33. Various	various	Northwestern North Atlantic	4	Whiteaves, 1901.
34. <i>Romanche</i>	1882-1883	Cape Horn	4	Waters, 1905.
35. <i>Velero IV</i>	various	Eastern North Pacific (California)	3	Hartman and Barnard, 1958, 1960.
36. Norwegian Antarctic Expedition	1927-1928	Antarctic	3	Vigeland, 1952.
37. <i>Norseman</i> , <i>Rathbun</i> and <i>Albatross</i>	1877, 1876, 1887	Western South Atlantic	2	Canu and Bassler, 1928a.
38. Various	various	Southwestern South Pacific (Australia)	2	Livingstone, 1924.
39. Dr. Owen Bryant	1908	Northwestern North Atlantic	2	Osburn, 1933.
40. Various	various	Mediterranean	1	Calvet, 1927.
41. <i>Olga</i>	1898	Arctic	1	Kluge, 1906.
42. <i>Ingolf</i>	1895-1896	Northwestern North Atlantic	1	Levensen, 1909.
43. Danish Expedition to Greenland's north coast	1906-1908	Northern North Atlantic	1	Levensen, 1916.
44. Johnson-Smithsonian Deep-Sea Expedition	1933	Western North Atlantic	1	Osburn, 1940.
45. University of California; University of Washington	1901-1904	Eastern North Pacific (California)	1	Robertson, 1905, 1908.
46. U. S. Navy's Antarctic Expedition	1947-1948	Antarctic	1	Rogick, 1956.
47. Swedish Deep-Sea Expedition; <i>Albatross</i>	1947-1948	Central North Atlantic	1	Silén, 1951a.
48. <i>Galathea</i>	1952	Western South Pacific (Kermadec Trench)	1	Wolff, 1960.

Europe and the eastern United States, and the desirability of using islands as home bases while at sea.

The major expeditions have obtained ectoproc from different parts of the world. Yet 29 per cent of *Siboga* stations (Malaysian archipelago), 25 per cent of the Woods Hole Oceanographic Institution (WHOI) benthic ecology program stations (northwestern North Atlantic), and 24 per cent of *Challenger* stations (worldwide) had ectoproc from 200 to 6,000 meters. This relatively constant proportion of stations with these animals suggests that they are rather uniformly distributed.

The geographic distribution of individual species has not been compiled other than for those considered by Hastings (1943) and Silén (1951a). Nevertheless, these data and those for the *Challenger* expedition show that most ectoproc species do not have a world-wide, deep-sea distribution. Enough information seems to exist in the North Atlantic to test whether the Mid-Atlantic Ridge is an effective barrier to ectoproc dispersal, as has been suggested for other groups (Vinogradova, 1959).

#### DEPTH DISTRIBUTION

Seventy-five per cent of all stations considered here are from depths of 200 to 1,000 meters (fig.

2). The sea bottom in this interval, however, accounts for less than 5 per cent of the total area. Thus the ectoproct fauna of the great majority of the world's ocean bottom may be impoverished, or, alternatively, extensive sampling of depths greater than 1,000 meters may be lacking.

To determine clearly the cause for the decrease in abundance of stations with ectoprocts with depth, a close examination was made of the depth distribution in the best sources of data: expeditions of the *Challenger*, *Siboga*, and the WHOI benthic ecology program. Approximately 80 per cent of all stations with ectoprocts from depths greater than 2,000 meters came from these expeditions. The percentage (fig. 3A) with ectoprocts in each depth interval closely parallels the percentage of total stations within each depth interval. Thus the relative paucity of ectoprocts from depths of 2,000 to 6,000 meters seems chiefly due to a dearth of samples rather than to a decrease in their abundance. One may expect to discover a much richer fauna from depths greater than 2,000 meters to at least 6,000 meters when suitable collections are made. A similar interpretation may apply to other groups of invertebrates which are

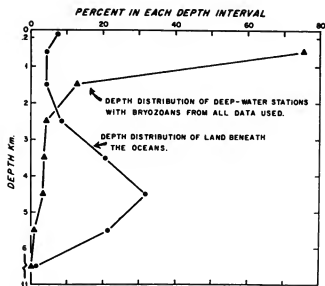


FIG. 2. Comparison of depth distribution of deep-water stations yielding ectoprocts and depth distribution of land beneath the sea (Menard and Smith, 1966). Points are averages of depth intervals. Ectoprocts occur in about 25 per cent of deep-water stations in all depth intervals from the *Challenger* and *Siboga* expeditions and the WHOI benthic ecology program. If the total number of stations that yielded ectoprocts (703) is about 25 per cent of the number of stations which have been examined for them, then the curve of ectoproct abundance represents the sorting of about 3000 samples.

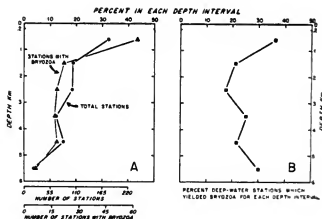


FIG. 3. A. Comparison of the distribution of stations with ectoprocts (143) with depth, and the total stations examined for ectoprocts (553), from the *Challenger* and *Siboga* expeditions and the WHOI benthic ecology program. Note that the curves are roughly parallel. B. Percentage of deep-water stations from the *Challenger* and *Siboga* expeditions and the WHOI benthic ecology program which yielded ectoprocts.

said to decrease in abundance with depth and which occur in a third or fewer of available deep-sea samples.

Stations from shallower than 1,000 meters have the highest percentage of ectoprocts (fig. 3B) probably because of the greater number of shells, pebbles, and other solid substrata available for colonization in shallower water. These animals occur in 36 per cent of the shallower stations (200–1,000 meters), an average of 22 per cent of intermediate depth stations (1,000–5,000 meters), and 30 per cent of the deepest stations (5,000–6,000 meters). In sharp contrast, Wolff (1960) reported only 1 station out of 56 that yielded ectoprocts from depths greater than 6,000 meters. Perhaps this is an artifact of sampling or sorting as there seems little reason why they should become virtually absent at 6,000 meters.

Species of ectoprocts seem to occur in a limited depth range of several tens of meters in shallow water (Gautier, 1961: pp. 329–339; Hastings, 1943: pp. 487, 490; Ryland, 1967) and of several hundred to 2,000 meters in deep water (Hastings, 1943: p. 487; Silén, 1951a; Schopf, 1965a, and unpublished). Water masses usually flow according to their density, which is generally depth stratified. Contour-following bottom currents have been described for the continental rise off eastern United States (Heezen, Hollister and Ruddiman, 1966). Larvae may therefore be dis-

tributed laterally in a manner that perpetuates a depth zonation.

It is not clear why ectoprocts should occur in about 25 per cent of the deep-water samples rather than, say, 1 per cent or 75 per cent. Once established, however, patchiness in distribution must be maintained by a factor that acts at the larval (dispersal) stage. Individuals of different colonies of the same species need to be close to each other if they are to exchange sperm. To judge from available scanty evidence, eggs are likely to be fertilized externally as they are passed from the coelom into the brood chamber (Silén, 1966). In shallow water, most ectoproct larvae are brooded, and hence have a short-lived existence in the plankton. These larvae have a strong tendency to settle near previous colonies even though other suitable substrata are near by (Ryland, 1967). Many (all?) deep-sea species brood their larvae as is indicated by the presence of brood chambers. Larvae of deep-sea forms presumably behave in the same way and for the same reasons as those of shelf species. The evolutionary advantage for a local population to be a sexually reproducing unit is considered the chief factor in maintaining different abundances of ectoproct species in different areas, both on the continental shelf and in deeper water.

Ectoprocts are substratum dependent. Larvae settle on a substratum of approximately their own size (0.1–0.3 millimeter diameter) or larger. The dominance of silt- and clay-sized particles (smaller than 0.06 millimeter) in sediments deeper than 1,000 meters (Sanders, Hessler and Hampson, 1965) shows that these larvae generally must search out special particles, such as a foraminiferan, pteropod, or a fragment of shell or rock, for its initial growth. The chitinous tendrils in several colonies in the material at hand are attached to foraminiferans. In contrast, on continental shelves, sediments are generally sand-sized (0.06–2.0 millimeters) and large areas of shell, rock, and other solid substrata are available, thus facilitating the establishment of local populations. Ectoprocts appear to utilize a higher percentage of available substrata in deeper water than in shallower water (Schopf, 1969).

The number of species per station definitely decreases with increasing depth (fig. 4). Maximum numbers of species from the continental shelf include approximately 75 from one rock off Beaufort, North Carolina (F. J. S. Maturo, Jr., per-

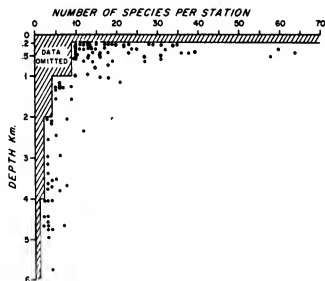


FIG. 4. Number of species of ectoprocts per station as a function of depth of collection for deep-water stations using all data. Data were omitted for stations shallower than 200 meters and in deeper water where only a few species were found.

sonal communication), 37 from a 180-meter dredge haul in the Bay of Biscay (Calvet, 1896), and 35 from a New England station (Schopf, 1965b). The number of species in collections from 200 to 600 meters is also high: more than 50 in 3 collections, more than 30 in 12 collections, and more than 10 in 63 collections. Thus the continental shelf and upper continental slope can be expected to have a maximum of 10 to 100 species per station.

At depths greater than 600 meters, the number of species per station generally decreases to about 10 by 1,000 meters and to 5 by 2,000 meters and deeper. Notable exceptions do occur and the most striking of these are the 19 species from 2,018 meters (Calvet, 1906c). This station includes material encrusting a rock and sand bottom and thus shows the diversity which exists when areas of suitable substrata do occur in deep water. Similar high numbers of ectoprocts occur in continental slope depths on the manganese and phosphorite nodules and pavement of the Blake Plateau off southeastern United States (material under study). The chief reason why these areas of substrata can occur on the Blake Plateau is that currents are sufficiently strong to prevent fine sediment from accumulating (Heezen, Hollister and Ruddiman, 1966). Such currents may also bring a large supply of food and thus encourage the development of filter feeders.

Unlike the Isopoda, ectoprocts do not seem to show a "moderate-depth-species-maximum" in water of a few thousand meters (Menziés and George, 1967).

A decrease in number of species with depth could be related to several factors whose relative importances are difficult to sort out. (1) These organisms may have only recently colonized the deep sea and time would therefore have been insufficient for significant speciation. Indeed several groups with representatives in deeper water are not known from deposits older than about 50 million years. The Farciminariidae, Scrupocellariidae, and the genus *Cellaria* are known only since the Eocene, and the Bicellariidae and Bifaxariidae have only been reported from Recent material (Bassler, 1953). Deep-sea deposits, however, are not extensively preserved above present sea level and several of the groups in question are lightly calcified and are not good objects for preservation. These qualifications are of unknown significance to the problem. (2) Rates of evolution in the deep sea may be much slower than those of species of the continental shelf. The relative constancy of the environment may create few pressures for selection of new genotypes and phenotypes. (3) Related to this last point is the possibility that the availability of niches may be much restricted for ectoprocts in the deep sea. The requirement for a suitable substratum limits the places that an ectoproct can grow. Until the pattern of distribution of individual species has been determined, it will be difficult to comment more positively on the reason for a decrease in number of species with increasing depth.

#### TAXONOMY

Nearly all species that occur deeper than 3,000 meters belong to the Order Cheilostomata (see Silén, 1951a), which includes perhaps 85 per cent of all extant species (3,000 estimated by Schopf and Manheim, 1967). Silén (1951a) noted that "A curious feature is that no 'Ctenostomata' or Cyclostomata (Stenolaemata) have been found in these great depths [more than 3,000 meters depth]." The absence of Cyclostomata was recently cited as evidence that bryozoa are an "insignificant group" in the deep sea (Menziés and George, 1967). Cyclostomes represent perhaps 10 per cent of all extant bryozoa so their absence from the deep sea is here considered of little consequence. The Insecta comprise the vast majority

of the Arthropoda yet the absence of insects from the deep sea does not mean that the arthropods are poorly represented. Cyclostomes have not evolved the capability of existing on particulate bottoms, which is a prerequisite for an extensive deep sea existence by bryozoa, and this probably accounts for their absence from that environment.

Many of the families of Cheilostomes have been found sporadically at depths greater than 200 meters where suitable substrata exist. However, only a few of these are well represented in the deep sea and thus can be said to be characteristic of that region. The Farciminariidae and Bifaxariidae are nearly exclusively deep sea. The Scrupocellariidae, Bicellariellidae, and Cellariidae are commonly found in the deep sea. These have in common an erect, bushlike growth form and a capacity for attachment to fine particles by rootlets. A few species of perhaps another dozen families occur in the deep sea (Silén, 1951a). Aside from rare deep-water occurrences of extensive rocks and shells, suitable substrata do not exist to support the great majority of the 67 families of Cheilostomes (taxonomy from Bassler, 1953).

#### FOOD

Ectoprocts on the continental shelf feed on diatoms, flagellates, and other phytoplankton. Below the photic zone of 100–200 meters, a shift in diet is a necessity. The guts of some naturally little-calcified (and hence nearly transparent) deep-sea cheilostomes were examined for food. Generally the digestive organs were as fully developed as in comparable continental shelf genera, such as *Bugula*, but were empty. This may be because the animals did not feed during the 1–2 hours necessary to bring them to the surface and to wash the sample. Fecal pellets, however, were present in the intestine, but these did not show recognizable food sources such as are visible in comparable material from continental shelf species. The fecal pellets did include detritus, a small part of which was birefringent, indicating that calcium carbonate particles had been ingested.

Structural modifications of the colony of specimens of *Euginoma* show that this curved, cylindrical colony is oriented parallel to the bottom, and not perpendicular to it as is commonly assumed for types of similar shape. This orientation would allow polypides to come in contact more easily with particles at the bottom which may

then serve as a food source. Possibly the chief source of food particles for these "filter" feeders is indeed organic matter, including bacteria, in the bottom sediments. In this situation, these ectoprocts would be more correctly referred to as detrital feeders.

### CONCLUSIONS

Collections of invertebrates from 200 to 6,000 meters have revealed that ectoprocts occur in about 35 per cent of the stations from 200 to 1,000 meters, and 25 per cent of the stations deeper than 1,000 meters. The fact that this percentage obtains (rather than, say, 1 per cent or 100 per cent) seems related to a combination of a relative paucity of particles of sufficient size for larvae to settle on and develop colonies, and to the need for local populations to maintain themselves as compact reproductive units. The maximum number of species per station decreases from as many as 64 in 300 meters of water, to about 10 in 1,000 meters of water, and to approximately 5 by 2,000 meters and deeper. At least some deep-sea ectoprocts appear to be "filtering" detritus at or on the bottom as a source of food.

A majority (55 per cent) of stations with ectoprocts are reported from the North Atlantic and others are associated with submarine ridges near islands. This appears to reflect the home-bases of the dredging operations more than the true distribution of the animals. About 25 per cent of the stations from 200–6,000 meters from the *Challenger* (worldwide) and *Siboga* (Malaysian archipelago) expeditions, and the WHOI benthic ecology program (northwestern North Atlantic) yielded ectoprocts. Vast areas of the Pacific and Indian oceans may, therefore, be expected to contain ectoprocts when sufficiently sampled.

### ACKNOWLEDGMENTS

This paper was prepared at the Marine Biological Laboratory (MBL), Woods Hole, Massachusetts. I am especially indebted to the Rogick collection of books and reprints on ectoprocts and entoprocts of the MBL library. I am indebted to H. L. Sanders and R. R. Hessler, Woods Hole Oceanographic Institution, who provided me with the ectoproct collections of the WHOI benthic ecology program. R. R. Hessler (now at Scripps Institution of Oceanography) reviewed the paper and his comments are appreciated. J. S. Ryland, University of Swansea, Wales, and F. T. Man-

heim, U. S. Geological Survey, Woods Hole, discussed various aspects of the study. K. W. Kaufmann, Jr., Lehigh University, assisted in preparation of slides. The research was supported by National Science Foundation Grant GB-7325, Contribution No. 71 from the Center for Marine and Environmental Studies, Lehigh University, Contribution No. 2174 from the Woods Hole Oceanographic Institution.

### REFERENCES CITED

- ANDERSON, E. R. 1952. *Single-depth Charts of the World's Ocean Basins at Depths to 3500 Fathoms, Set 2; Research and Development Report 1252* (U. S. Navy Electronics Lab., San Diego, California).
- ANDERSON, K. A. 1902. "Bryozoen." *Zool. Jahrb.; Abt. Syst., Geog., Biol.* 50: pp. 537–560.
- BARROSO, M. G. 1912. "Briozoos de la Estacion de Biologia Maritima de Santander." *Trab. Musco Cienc. Nat. No. 5*: pp. 1–63.
- . 1935. Notas sobre Briozoos Espanoles 16. *Bol. Soc. Esp. Hist. Nat.* 35: pp. 373–380.
- BARTHOLOMEW, J., editor. 1958. *The Times Atlas of the World, Mid-Century Edition* (Cambridge, England, Houghton-Mifflin Co.) 1: pp. 1–34.
- BASSLER, R. S. 1953. "Bryozoa," in *Treatise on Invertebrate Paleontology, Part G*, R. C. Moore, editor (Lawrence, Kansas, Univ. Kansas Press), pp. G1–G253.
- BIDENKAP, O. 1900. "Die Bryozoen." *Fauna Arctica* 1, 3: pp. 503–540.
- BUSK, G. 1881. "Descriptive Catalogue of the Species of *Cellepora* Collected on the *Challenger* Expedition." *Jour. Linn. Soc. London, Zool.* 15: pp. 341–356.
- . 1884. "Report on the Polyzoa Collected by H. M. S. *Challenger* During the Years 1873–1876. The Cheilostomata." *Rep. Scient. Results Challenger, Zool.* 10: pp. 1–216, + xxiv.
- . 1886. "Report on the Polyzoa Collected by H. M. S. *Challenger* During the Years 1873–1876. Second Part." *Rep. Scient. Results Challenger, Zool.* 17: pp. 1–47, + viii.
- CALVET, L. 1896. "Bryozoaires," in "Résultat. scient. Camp. CAUDEN G. Gascogne." R. Koehler, editor, *Annals. Univ. Lyon Part 26*: pp. 251–272, pl. 7.
- . 1906a. "Note préliminaire sur les Bryozoaires recueillis par les expéditions du *Travailleur* (1881–1882) et du *Talisman* (1883)." *Bull. Mus. Hist. Nat., Paris No. 3*: pp. 154–156.
- . 1906b. "Deuxième note préliminaire sur les Bryozoaires récoltés par les expéditions du *Travailleur* (1881–1882) et du *Talisman* (1883)." *Bull. Mus. Hist. Nat., Paris No. 4*: pp. 215–222.
- . 1906c. "Bryozoaires." *Expéd. scient. Travailleur et Talisman*, pp. 355–495.
- . 1927. "Bryozoaires de Monaco et environs." *Bull. Inst. Océanogr. Monaco No. 503*: pp. 1–46.
- . 1931. "Bryozoaires provenant des campagnes scientifiques du Prince Albert I<sup>er</sup> de Monaco." *Result. Camp. scient. Prince Albert I Part 83*: pp. 1–155.

- CANU, F., and R. S. BASSLER. 1927. "Bryozoaires des Iles Hawaï." *Bull. Soc. Sci. nat. méd. Scine-et-Oise*, ser. 2, 8, 7: pp. 1-56.
- . 1928a. "Bryozoaires du Brésil." *Bull. Soc. Sci. nat. méd. Scine-et-Oise*, ser. 2, 9, 5: pp. 58-100.
- . 1928b. "Fossil and Recent Bryozoa of the Gulf of Mexico Region." *Proc. U. S. Nat. Mus.* 72, 14: pp. 1-199.
- . 1928c. "Les Bryozoaires du Maroc et de Mauritanie." *Mém. Soc. Sci. Nat. Maroc* 18: pp. 1-85.
- . 1929. "Bryozoa of the Philippine Region." *Bull. 100 U. S. Nat. Mus.* 9: pp. 1-685.
- CLARKE, A. H., JR. 1962a. "Annotated List and Bibliography of the Abyssal Marine Molluscs of the World." *Bull. Nat. Mus. Can.* No. 181: pp. 1-114.
- . 1962b. "On the Composition, Zoogeography, Origin and Age of the Deep-sea Mollusk Fauna." *Deep-Sea Res.* 9: pp. 291-306.
- DUERDEN, J. E. 1893. "On Some New and Rare Irish Polyzoa." *Proc. Roy. Irish Acad.*, ser. 3, 3: pp. 121-136.
- GAUTIER, Y. V. 1961. *Recherches écologiques sur les Bryozoaires Chilostomes en Méditerranée occidentale*. Thèse présentée à la Faculté des Sciences de l'Université d'Aix-Marseille: pp. 1-434. (Centre régional de documentation pédagogique service des impressions, 23, Rue Gaston-de-Saporta; Aix-en-Provence).
- GORBUNOV, G. 1946. "Bottom Life of the Novosibirian Shallowwaters and the Central Part of the Arctic Ocean." *Trudy arkt. nauchno-issled. Inst.* 3: pp. 30-138. [In Russian with English summary.]
- HANSEN, K. B. 1962. "Bryozoa. The Godthaab Expedition 1928." *Medd. Grønland* 81, 6: pp. 1-74.
- HARMER, S. F. 1915. "The Polyzoa of the Siboga Expedition. Part I, Entoprocta, Ctenostomata and Cyclostomata." *Siboga Exped. Mon.* 28a: pp. 1-180.
- . 1926. "The Polyzoa of the Siboga Expedition. Part II, Anasca." *Siboga Exped. Mon.* 28b: pp. 181-502.
- . 1934. The Polyzoa of the Siboga Expedition. Part III, Cheilostomata Ascophora I, Family Reteporidae." *Siboga Exped. Mon.* 28c: pp. 503-640.
- . 1957. "The Polyzoa of the Siboga Expedition. Part IV, Cheilostomata Ascophora II, Ascophora except Reteporidae, with Additions to Part II, Anasca." *Siboga Exped. Mon.* 28d: pp. 641-1188.
- HARTMAN, O., and J. L. BARNARD. 1958. "The Benthic Fauna of the Deep Basins off Southern California." *Allan Hancock Pac. Exped.* 22, 1: pp. 1-67.
- . 1960. The Benthic Fauna of the Deep Basins off Southern California: Continued Studies in the Seaward and Deep Basins, in *The Benthic Fauna of the Deep Basins off Southern California*, Allan Hancock Pac. Exped. 22, 2: pp. 217-284.
- HASENBANK, W. 1932. "Bryozoa der Deutschen Tiefsee Expedition. Part I." *Wiss. Ergebn. dt. Tiefsee-Exped.* Valdivia 21, 2: pp. 318-381.
- HASTINGS, A. B. 1943. "Polyzoa (Bryozoa) I. Scrupocellariidae, Epistomidae, Farciminariidae, Bicellariellidae, Actetidae, Scrupariidae." *Discovery Rep.* 22: pp. 301-510.
- HEEZEN, B. C., C. D. HOLLISTER and W. F. RUDDIMAN. 1966. "Shaping of the Continental Rise by Deep Geostrophic Contour Currents." *Science* 152: pp. 502-508.
- HESSLER, R. R., and H. L. SANDERS. 1967. "Faunal Diversity in the Deep-sea." *Deep-Sea Res.* 14: pp. 65-78.
- HYMAN, L. H. 1959. *The Invertebrates: Smaller Coelomate Groups* (New York, McGraw-Hill), pp. 1-783.
- JULLIEN, J., and L. CALVET. 1903. "Bryozoaires provenant des campagnes de l'Hirondelle (1886-1888)." *Résult. Camp. scient. Prince Albert I* Part 23: pp. 1-188.
- KIRKPATRICK, R. 1889. "Polyzoa, Hydrozoa, Sponges and Radiolaria," in "Report of a Deep-sea Traveling Cruise off the S. W. Coast of Ireland under the Direction of Rev. W. Spotswood Green, M.A., F. R. G. S." *Ann. Mag. Nat. Hist.*, ser. 6, 4: pp. 446-447.
- KOEHLER, R., editor. 1896. "Résult scient. Camp. Caudan G. Gascogne." *Annals Univ. Lyon* Part 26: pp. 1-741.
- KLUGE, H. 1906. "Ergänzungsbericht über die von der Olga Expedition gesammelten Bryozoen." *Wiss. Meeresunters.*, n.s. 8, 1: pp. 31-55.
- . 1914. "Die Bryozoen der Deutschen Südpolar-Expedition 1901-1903. I. Die Familien Actidae, Cellularidae, Bicellariidae, Farciminariidae, Flustriidae, Membraniporidae und Cribellariidae." *Dt. Südpol.-Exped. Zool.* 15, 7: pp. 601-678.
- LAGAARJ, R. 1963. "New Additions to the Bryozoan Fauna of the Gulf of Mexico." *Publs. Inst. Mar. Sci., Texas* 9: pp. 162-236.
- LEVINSEN, G. M. R. 1909. *Morphological and Systematic Studies on the Cheilostomatous Bryozoa* (Copenhagen, Nationale Forfatteres Forlag), p. 1-431.
- . 1914. "Bryozoa, Endoprocta, Pterobranchia og Enteropneusta." *Medd. Grønland* 23: pp. 545-634.
- . 1916. "Bryozoa. Danmark-Ekspeditionen till Grønlands Nordøstkyst 1906-1908, 3, 16." *Medd. Grønland* 43: pp. 431-472.
- LIVINGSTONE, A. A. 1924. "Studies on Australian Bryozoa, No. 1." *Rec. Aust. Mus.* 14, 3: pp. 189-212.
- . 1928. "The Bryozoa, Supplementary Report." *Australas. Antarct. Exped., scient. Results, Ser. C, Zool. Bot.* 9, 1: pp. 1-93.
- LORENZ, L. VON. 1886. "Bryozoen von Jan Mayen." *Die Internationale Polarforschung 1882-1883. Die Österreichische Polarstation Jan Mayen* 3: pp. 1-18.
- MENARD, H. W. 1959. "Geology of the Pacific Sea Floor." *Experientia* 15, 6: pp. 205-213.
- . 1964. *Marine Geology of the Pacific* (New York, McGraw-Hill), pp. 1-271.
- . 1965. "The World-Wide Oceanic Rise-ridge System." *Phil. Trans. R. Soc.* 258: pp. 109-122.
- . 1967. "Extension of Northeastern-Pacific Fracture Zones." *Science* 155: pp. 72-74.
- MENARD, H. W., and S. M. SMITH. 1966. "Hypsometry of Ocean Basin Provinces." *Jour. geophys. Res.* 71: pp. 4305-4325.
- MENZIES, R. J. 1963. "Abyssal Bryozoa collected by expeditions of the Lamont Geological Observatory. I. Bicellariellidae (Bugulidae of Authors), *Kinctoskias*." *Am. Mus. Novit.* No. 2130: pp. 1-8.

- MENZIES, R. J., and R. Y. GEORGE. 1967. "A Re-evaluation of the Concept of Hadal or Ultra-abyssal Fauna." *Deep-Sea Res.* 14: pp. 703-723.
- MENZIES, R. J., and J. IMBRIE. 1958. "On the Antiquity of the Deep-sea Bottom Fauna." *Oikos* 9, 2: pp. 192-210.
- MENZIES, R. J., J. IMBRIE, and B. C. HEEZEN. 1961. "Further Considerations Regarding the Antiquity of the Abyssal Fauna with Evidence for a Changing Abyssal Environment." *Deep-Sea Res.* 8: pp. 79-94.
- MURRAY, J. 1895a. "A Summary of the Scientific Results Obtained at the Sounding, Dredging and Trawling Stations of H. M. S. Challenger." *Rep. Scient. Results CHALLENGER; A Summary of the Scientific Results, Part I*: pp. 1-796, + liv.
- . 1895b. "A Summary of the Scientific Results Obtained at the Sounding, Dredging, and Trawling Stations of H. M. S. Challenger." *Rep. Scient. Results CHALLENGER; A Summary of the Scientific Results, Part II*: pp. 797-1068, + xix.
- NATIONAL GEOGRAPHIC SOCIETY. 1965. "The World." *Nat. Geogr. Mag. Map*.
- . 1967. "Indian Ocean Floor." *Nat. Geogr. Mag. Map*.
- . 1968. "Atlantic Ocean Floor." *Nat. Geogr. Mag. Map*.
- NICHOLS, A. R. 1911. "Polyzoa from the Coasts of Ireland." *Scient. Invest. Fish. Branch Ire.* 1910 No. 1: pp. 1-37.
- NORDGAARD, O. 1900. "Polyzoa." *Norw. North-Atlantic Exped. 1876-1878, Zoology*, pp. 1-30.
- . 1905. *Hydrographical and Biological Investigations in Norwegian Fjords* (Bergen, Norway, Bergens Mus.), pp. 153-194.
- . 1907. "Bryozoen von dem norwegischen Fischereidampfer Michael Sars in den Jahren 1900-1904 gesammelt." *Bergens Mus. Aarbog* 1907, No. 2: pp. 1-20.
- . 1918. "Bryozoa from the Arctic Regions." *Tromsø Mus. Arsb.* 40, 1917: pp. 1-99.
- . 1931. "Faunistic Notes on Marine Evertebrates VIII. On the Distribution of *Bicellariella* and *Kinetoskias*." *Kongl. Norske Vidensk. Selsk. Forh.* 4, 10: pp. 31-34.
- . 1932. "Faunistic Notes IX. On Some Arctic Bryozoa from West-Finmark." *Kongl. Norske Vidensk. Selsk. Forh.* 4, 17: pp. 58-61.
- ORTMANN, A. 1890. "Die Japanische Bryozoenfauna." *Arch. Naturgesch. Jahrg.* 1, 1: pp. 1-74.
- OSBURN, R. C. 1933. "Bryozoa from Labrador, Newfoundland, and Nova Scotia, Collected by Dr. Owen Bryant." *Proc. U. S. Nat. Mus.* 43: pp. 275-289.
- . 1940. "A New *Cornucopina* (Bryozoa) from the West Indies." *Smithson. Misc. Collns.* 91, 30: pp. 1-3.
- POURTALES, L. F. DE. 1867. "Contributions to the Gulf Stream at Great Depths." *Bull. Mus. Comp. Zool. Harv.* 1, 6: pp. 103-120.
- POWELL, N. A. 1967. "Polyzoa (Bryozoa)—Ascophora—from North New Zealand." *Discovery Rep.* 34: pp. 199-394.
- ROBERTSON, A. 1905. "Non-incrusting Chilostomatous Bryozoa of the West Coast of North America." *Univ. Calif. Publs. Zool.* 2, 5: pp. 235-322.
- . 1908. "The Incrusting Chilostomatous Bryozoa of the West Coast of North America." *Univ. Calif. Publs. Zool.* 4, 5: pp. 253-344.
- . 1921. "Report on a Collection of Bryozoa from the Bay of Bengal and Other Eastern Seas." *Rec. Indian Mus.* 22, part 1: pp. 33-65.
- ROGICK, M. D. 1956. "Bryozoa of the United States Navy's 1947-1948 Antarctic Expedition, I-IV." *Proc. U. S. Nat. Mus.* 105: pp. 221-317.
- RYLAND, J. S. 1967. "Polyzoa." *Oceanog. Mar. Biol. Ann. Rev.* 5: pp. 343-369.
- SANDERS, H. L., R. R. HESSLER and G. R. HAMPSON. 1965. "An Introduction to the Study of Deep-sea Benthic Faunal Assemblages Along the Gay Head-Bermuda Transect." *Deep-Sea Res.* 12: pp. 845-867.
- SARS, G. O. 1872. "On Some Remarkable Forms of Animal Life from the Great Deeps off the Norwegian Coast. I. Partly from Posthumous Manuscripts of the Late Professor Dr. Michael Sars." *University-Program for the 1st Half-Year 1869, Christiania*, pp. 1-76.
- SARS, M. 1868. "Fortsatte Bemærkninger over det dyriske Livs Udbredning i Havets Dybder." *Förh. Vidensk. Selsk. Krist.* 1868: pp. 246-275.
- SCHOPF, T. J. M. 1965a. "Deep-sea Ectoprocta from 300-4680 m on the Gay Head, Massachusetts-Bermuda, U. K., Transect." *Biol. Bull. Mar. Biol. Lab., Woods Hole* 129: p. 421.
- . 1965b. "Ectoprocta (Bryozoa) Distribution on the Atlantic Continental Shelf from the Hudson Canyon to Nova Scotia." *Biol. Bull. Mar. Biol. Lab., Woods Hole* 129: pp. 421-422.
- . 1968. "Generalizations Regarding the Phylum Ectoprocta in the Deep-sea (200-6000 m)." *Atti Soc. Ital. Sci. Nat. e Museo Civ. St. Nat. Milano* 108: pp. 152-154.
- . 1969. "Paleoecology of Ectoprocta (Bryozoa)." *Jour. Paleont.* 43: pp. 234-244.
- SCHOPF, T. J. M., and F. T. MANHEIM. 1967. "Chemical Composition of Ectoprocta (Bryozoa)." *Jour. Paleont.* 41, 5: pp. 1197-1225.
- SHEPARD, F. P. 1963. *Submarine Geology* (2nd ed., New York, Harper & Row), pp. 1-557.
- SILÉN, L. 1938. "Zur Kenntnis des Polymorphismus der Bryozoen. Die Avicularien der Chilostomata *Anasca*." *Zool. Bidr. Upps.* 17: pp. 148-366.
- . 1942a. "Chilostomata *Anasca* (Bryozoa) Collected by Prof. Dr. Sixten Bock's Expedition to Japan and the Bonin Islands 1914." *Ark. Zool.* 33A, 12: pp. 1-130.
- . 1942b. "On Spiral Growth of the Zoaria of Certain Bryozoa." *Ark. Zool.* 34A, 2: pp. 1-22.
- . 1942c. "Camosa and Stoloniifera (Bryozoa) Collected by Prof. Dr. Sixten Bock's Expedition to Japan and the Bonin Islands 1914." *Ark. Zool.* 34A, 8: pp. 1-33.
- . 1947. "Conescharrellinidae (Bryozoa Gymnolaemata) Collected by Prof. Dr. Sixten Bock's Expedition to Japan and the Bonin Islands, 1914." *Ark. Zool.* 39A, 9: pp. 1-61.
- . 1951a. "Bryozoa." *Rep. Swed. Deep-Sea Exped. Zool.* 2, 5: pp. 63-69.

- . 1951b. "Bryozoa Collected by the *Skagcrak* Expedition 1946." *Göteborgs K. Vetensk.-och Vitterh-Samh. Handl. Ser. B* 6, 4: pp. 1-9.
- . 1966. "On the Fertilization Problem in the Gymnolaematus Bryozoa." *Ophelia* 3: pp. 113-140.
- SMITH, S. I., and O. HARGER. 1874. "Report on the Dredgings in the Region of St. George's Banks, in 1872." *Trans. Conn. Acad. Arts Sci.* 3, 1: pp. 1-57.
- SMITT, F. A. 1867. "Kritisk förteckning öfver Skandinavians Hafs-Bryozoa." [Part IV.] *Öfvers. K. Vetensk.Akad. Förh.* 1867, No. 5: pp. 279-429.
- . 1868. "Kritisk förteckning öfver Skandinavians Hafs-Bryozoa." [Part V.] *Öfvers. K. Vetensk.Akad. Förh.* 1867 Bihang: pp. 1-230.
- . 1872. "Floridan Bryozoa." *K. svenska Vetensk.Akad. Handl.* 10, 11: pp. 1-20.
- . 1873. "Floridan Bryozoa." *K. svenska Vetensk.Akad. Handl.* 11, 4: pp. 1-83.
- THORNELY, L. R. 1924. "Polyzoa." *Australas. Antarct. Exped., Scient. Report, Ser. C, Zool. Bot.* 6, 6: pp. 1-23.
- TYDEMAN, M. -G. F. 1902. "Liste des stations de la campagne scientifique du *Siboga*," in *Introduction et description de l'expédition*, M. Weber, *Siboga Exped. Mon.* 1: pp. 1-16.
- UCHUPI, E. 1968. "Atlantic Continental Shelf and Slope of the United States—Physiography." *Prof. Pap. U. S. Geol. Surv.* 529-C: pp. C1-C30.
- U. S. NAVAL OCEANOGRAPHIC OFFICE. 1922. "Chart of the World." Chart No. 1262A.
- VERRILL, A. E. 1875. "Brief Contributions to Zoology from the Museum of Yale College. No. 32.—Results of Dredging Expeditions off the New England Coast in 1874." *Amer. Jour. Sci.* 9: pp. 411-415.
- . 1879. "[Review of] *Fauna Littoralis Norvegiae*," *Amer. Jour. Sci.* 17: pp. 258-259.
- VIGELAND, I. 1952. "Antarctic Bryozoa." *Norw. Antarct. Exped., Scient. Results* No. 34: pp. 1-15.
- VINOGRADOVA, N. G. 1959. "The Zoogeographical Distribution of the Deep-water Bottom Fauna in the Abyssal Zone of the Ocean." *Deep-Sea Res.* 5: pp. 205-208.
- . 1962. "Vertical Zonation in the Distribution of Deep-sea Benthic Fauna in the Ocean." *Deep-Sea Res.* 8: pp. 245-250.
- WATERS, A. W. 1889. "Supplementary Report on the Polyzoa Collected by H. M. S. *Challenger* During the Years 1873-1876." *Rep. Scient. Results Challenger*, Zool. 31: pp. 1-41.
- . 1898. "Observations on *Membraniporidae*." *Jour. Linn. Soc. London, Zool.* 26: pp. 654-693.
- . 1900. "Bryozoa from Franz-Josef Land, Collected by the Jackson-Harmsworth Expedition, 1896-1897." *Jour. Linn. Soc. London, Zool.* 28: pp. 43-105.
- . 1904a. "Bryozoa." *Expédition Antarctique Belge; Résult. Voyage S. Y. Belgica*, Zool., pp. 1-114.
- . 1904b. "Bryozoa from Franz-Joseph Land, Collected by the Jackson-Harmsworth Expedition, 1896-1897." *Jour. Linn. Soc. London, Zool.* 29: pp. 161-184.
- . 1905. "Bryozoa from near Cape Horn." *Jour. Linn. Soc. London, Zool.* 29: pp. 230-251.
- WHITEAVES, J. F. 1901. *Catalogue of the Marine Invertebrata of Eastern Canada* (Geol. Surv. Canada, Ottawa), pp. 1-272.
- WOLFF, T. 1960. "The Hadal Community, an Introduction." *Deep-Sea Res.* 6: 95-124.
- ZENKEVICH, L. A., and J. A. BIRSTEIN. 1956. "Studies of the Deep Water Fauna and Related Problems." *Deep-Sea Res.* 4: pp. 54-64.
- . 1960. "On the Problem of the Antiquity of the Deep-sea Fauna." *Deep-Sea Res.* 7: pp. 10-23.



# INDEX TO VOLUME 113

- ADAMS, JOHN QUINCY, youth of (Musto), 269  
 Anthropology, cultural, frontiers of (Eggan, Goodenough, Tuden, Spiro, DeVos), 325-366  
 Aspirations, revolution in (Petersen), 265
- BAYLEN, JOSEPH O., Mattei cancer cure: a Victorian nostrum, 149  
 Behavior, social, and religious symbolism (Spiro), 341  
 human, comparative (DeVos), 350  
 BORAH, WOODROW, and SHERBURNE F. COOK, Conquest and population: a demographic approach to Mexican history, 177  
 Bryozoa: geographic and depth distribution of the phylum Ectoprocta from 200 to 6,000 meters (Schopf), 464
- Cancer cure, Mattei (Baylen), 149  
 CASKEY, JOHN L., Crises in the Minoan-Mycenaean world, 433  
 Caucus, congressional nominating (Morgan), 184  
 CAUSEY, NELL B., and DARWIN, L. TIEMANN, Revision of the bioluminescent millipedes of the genus *Molyria* (Xystodesmidae, Polydesmida), 14  
 CONDON, E. U., UFO's I have loved and lost, 425  
 Congressional nominating caucus, origin and development of (Morgan), 184  
 COOK, SHERBURNE F., with Woodrow Borah, see Borah  
 Crusades: Pope Leo X and the Turkish Peril (Setton), 367
- DEVOS, GEORGE, Problems and research in comparative human behavior, 350  
 DUMONT, PAUL-EMILE, Kāmya animal sacrifices in the Taittiriya-Brāhmaṇa, 34
- Ectoprocta, geographic and depth distribution (Schopf), 464  
 EGGAN, FRED R., Introduction to symposium on frontiers of cultural anthropology, 325  
 EVANS, JOHN V., Radar surveys of the solar system, 203
- Food habits in the ante-bellum south (Hilliard), 1
- GOLB, NORMAN, Monieux, 67  
 GOLDSTEIN, RICHARD M., Radar view of the surface of Venus, 224  
 Golein, Jean, *Traité du Sacre* of (Jackson), 305  
 GOODENOUGH, WARD H., Frontiers of cultural anthropology: social organization, 329  
 GREENE, JOHN C., Development of mineralogy in Philadelphia, 1780-1820, 283
- HILLIARD, SAM, Hog meat and cornpone: food habits in the ante-bellum south, 1  
 HUGGINS, CHARLES, Epithelial osteogenesis—a biological chain reaction, 458
- JACKSON, RICHARD A., *Traité du Sacre* of Jean Golein, 305
- Kautilya, Plato, Lord Shang: comparative political economy (Spengler), 450  
 Leo X and the Turkish peril (Setton), 367
- Machines, are we? (Wigner), 95  
 Mattei cancer cure (Baylen), 149  
 MENZEL, DONALD H., Moon as an abode of life, 102  
 Venus past, and the distance of the sun, 197  
 Meteor trains, long enduring (Olivier), 127  
 Mexican history, demographic approach to (Borah and Cook), 177  
 Millipedes, bioluminescent, of the genus *Molyria* (Causey and Tiemann), 14  
 Mineralogy, development in Philadelphia, 1780-1820 (Greene), 283  
 Minoan-Mycenaean world, crises in (Caskey), 433  
 Monieux (Golb), 67  
 Moon as an abode of life (Menzel), 102  
 MORGAN, WILLIAM G., Origin and development of the congressional nominating caucus, 184  
 MUSTO, DAVID F., Youth of John Quincy Adams, 269
- Nerves, flow in (Weiss), 140
- OLIVIER, CHARLES P., Long enduring meteor trains; fourth paper, 127  
 Osteogenesis, epithelial (Huggins), 458
- Penrose memorial lecture (Perutz), 247; (Setton), 367  
 PERUTZ, M. F., Structure of proteins as revealed by x-ray analysis: a contribution of physics to biology, 247  
 PETERSEN, HOWARD C., Revolution in aspirations, 265  
 Placenta: new appraisal of an old organ (Ramsey), 296  
 Plato, Kautilya, Lord Shang: comparative political economy (Spengler), 450  
 Political anthropology (Tuden), 336  
 Population: demographic approach to Mexican history (Borah and Cook), 177  
 Proteins, structure as revealed by x-ray analysis (Perutz), 247
- RAMSEY, ELIZABETH M., New appraisal of an old organ: the placenta, 296  
 Religious symbolism and social behavior (Spiro), 341
- Sacrifices, animal, in the Taittiriya-Brāhmaṇa (Dumont), 34  
 SCHOPF, THOMAS J. M., Geographic and depth distribution of the phylum Ectoprocta from 200 to 6,000 meters, 464  
 SETTON, KENNETH M., Pope Leo X and the Turkish peril, 367  
 Shang, Lord, Kautilya, Plato: comparative political economy (Spengler), 450  
 Social behavior and religious symbolism (Spiro), 341  
 Social organization (Goodenough), 329  
 Solar system, radar surveys of (Evans), 203  
 SPENGLER, JOSEPH J., Kautilya, Plato, Lord Shang: comparative political economy, 450

- SPIRO, MELFORD E., Religious symbolism and social behavior, 341  
 STEPHENS, OLIN J., II, Designing a twelve meter yacht, 428  
 SWINGS, POL, Venus through a spectroscope, 229  
 Symposia: Planet Venus: past, present, and future (Menzel, Evans, Goldstein, Swings), 197-246  
 Frontiers of cultural anthropology (Eggan, Goodenough, Tuden, Spiro, DeVos), 325-366  
 Taittiriya-Brāhmaṇa, Kāmya animal sacrifices in (Dumont), 34  
 TIEMANN, DARWIN L., with Nell B. Causey, *see* Causey  
*Traité du Sacre* of Jean Golein (Jackson), 305  
 TUDEN, ARTHUR, Trends in political anthropology, 336  
 Turkish peril and Leo X (Setton), 367  
 UFO's I have loved and lost (Condon), 425  
 Unidentified flying objects (Condon), 425  
 Venus, planet (Menzel, Evans, Goldstein, Swings), 197-246  
 WEISS, PAUL A., "Panta' Rhei"—and so flow our nerves, 140  
 WIGNER, EUGENE P., Are we machines? 95  
 Yacht, designing a twelve meter (Stephens), 428

PROCEEDINGS  
OF THE  
AMERICAN PHILOSOPHICAL SOCIETY

HELD AT PHILADELPHIA  
FOR PROMOTING USEFUL KNOWLEDGE

---

VOLUME 113

1969

---



THE AMERICAN PHILOSOPHICAL SOCIETY  
INDEPENDENCE SQUARE  
PHILADELPHIA

1969

Copyright © 1969 by THE AMERICAN PHILOSOPHICAL SOCIETY

# CONTENTS

	Page
No. 1. Hog Meat and Cornpone: Food Habits in the Ante-bellum South. SAM HILLIARD.....	1
A Revision of the Bioluminescent Millipedes of the Genus <i>Molyxia</i> (Xystodesmidae, Polydesmida). NELL B. CAUSEY and DARWIN L. TIEMANN.....	14
The Kāmya Animal Sacrifices in the Taittirīya-Brāhmaṇa. PAUL-EMILE DUMONT.....	34
Monieux. NORMAN GOLB.....	67
No. 2. Are We Machines? EUGENE P. WIGNER.....	95
The Moon as an Abode of Life? DONALD H. MENZEL.....	102
Long Enduring Meteor Trains. Fourth Paper. CHARLES P. OLIVIER.....	127
"Panta' Rhei"—And So Flow Our Nerves. PAUL A. WEISS.....	140
The Mattei Cancer Cure: A Victorian Nostrum. JOSEPH O. BAYLEN.....	149
Conquest and Population: A Demographic Approach to Mexican History. WOODROW BORAH and SHERBURNE F. COOK.....	177
The Origin and Development of the Congressional Nominating Caucus. WILLIAM G. MORGAN.....	184
No. 3. The Planet Venus: Past, Present, and Future:	
Venus Past, and the Distance of the Sun. DONALD H. MENZEL.....	197
Radar Surveys of the Solar System. JOHN V. EVANS.....	203
A Radar View of the Surface of Venus. RICHARD M. GOLDSTEIN.....	224
Venus Through a Spectroscope. POL SWINGS.....	229
No. 4. The Structure of Proteins as Revealed by X-ray Analysis: A Contribution of Physics to Biology. <i>Penrose Memorial Lecture</i> . M. F. PERUTZ.....	247
The Revolution in Aspirations. HOWARD C. PETERSEN.....	265
The Youth of John Quincy Adams. DAVID F. MUSTO.....	269
The Development of Mineralogy in Philadelphia, 1780-1820. JOHN C. GREENE.....	283
New Appraisal of an Old Organ: The Placenta. ELIZABETH M. RAMSEY.....	296
The <i>Traité du Sacre</i> of Jean Golein. RICHARD A. JACKSON.....	305
No. 5. Frontiers of Cultural Anthropology:	
Introduction to the Symposium on Frontiers of Cultural Anthropology. FRED R. EGGAN.....	325
Frontiers of Cultural Anthropology: Social Organization. WARD H. GOODENOUGH.....	329
Trends in Political Anthropology. ARTHUR TUDEN.....	336
Religious Symbolism and Social Behavior. MELFORD E. SPIRO.....	341
Problems and Research in Comparative Human Behavior. GEORGE DEVOS.....	350

	Page
No. 6. Pope Leo X and the Turkish Peril. <i>Penrose Memorial Lecture.</i> KENNETH M. SETTON	367
UFO's I Have Loved and Lost. E. U. CONDON.....	425
Designing a Twelve Meter Yacht. OLIN J. STEPHENS II.....	428
Crises in the Minoan-Mycenaean World. JOHN L. CASKEY.....	433
Kauṭilya, Plato, Lord Shang: Comparative Political Economy. JOSEPH J. SPENGLER....	450
Epithelial Osteogenesis—A Biological Chain Reaction. CHARLES HUGGINS.....	458
Geographic and Depth Distribution of the Phylum Ectoprocta from 200 to 6,000 Meters. THOMAS J. M. SCHOFF.....	464
Index to Volume 113.....	475

# MEMOIRS OF THE AMERICAN PHILOSOPHICAL SOCIETY

---

- Population Redistribution and Economic Growth, United States, 1870-1950. III. Demographic Analyses and Interrelations.** HOPE T. ELDRIDGE and DOROTHY SWAINE THOMAS. Introduction by SIMON KUZNETS.  
Vol. 61. xxxvi, 368 pp. 1964. \$6.00.
- David Hosack, Citizen of New York.** CHRISTINE CHAPMAN ROBBINS.  
Vol. 62. x, 246 pp., 24 figs. 1964. \$3.50.
- Three Decades of British Art: 1740-1770.** ELLIS K. WATERHOUSE. (Jayne Lectures for 1964.)  
Vol. 63. xiv, 77 pp., 20 figs. 1965. \$2.00.
- Colonial Architecture of Antigua Guatemala.** SIDNEY D. MARKMAN.  
Vol. 64. xx, 335 pp., 214 figs. 1966. \$10.00.
- A Guide to Manuscripts Relating to the American Indian in the Library of the American Philosophical Society.** Compiled by JOHN F. FREEMAN. MURPHY D. SMITH, Editorial Consultant.  
Vol. 65. xii, 491 pp. 1966. \$7.50.
- Guide to the Archives and Manuscript Collections of the American Philosophical Society.** Compiled by WHITFIELD J. BELL, JR., and MURPHY D. SMITH.  
Vol. 66. ix, 182 pp. 1966. \$3.00.
- Nuclear Astrophysics.** WILLIAM A. FOWLER. (Jayne Lectures for 1965.)  
Vol. 67. xviii, 109 pp., 25 figs. 1967. \$3.00.
- Sources for History of Quantum Physics.** THOMAS S. KUHN, JOHN L. HEILBRON, PAUL FORMAN, LINI ALLEN.  
Vol. 68. xiv, 176 pp. 1967. \$5.00.
- The "Expositio in Cantica Canticorum" of Williram, Abbot of Ebersberg, 1048-1085. A Critical Edition.** ERMINNIE HOLLIS BARTELMER.  
Vol. 69. xxviii, 573 pp., 5 figs. 1967. \$8.50.
- Accounts Rendered by Papal Collectors in England, 1317-1378.** WILLIAM E. LUNT. Edited by EDGAR B. GRAVES.  
Vol. 70. liv, 579 pp., 4 figs. 1968. \$10.00.
- Raymond d'Aguilers: Historia Francorum qui Ceperunt Iherusalem.** JOHN HUGH HILL and LAURITA L. HILL.  
Vol. 71. xii, 146 pp. 1968. \$3.00.
- Pagan Myth and Christian Tradition in English Poetry.** DOUGLAS BUSH. (Jayne Lectures for 1967.)  
Vol. 72. xviii, 112 pp. 1968. \$2.50.
- The Wilkes Expedition: The First United States Exploring Expedition, 1838-1842.** DAVID B. TYLER.  
Vol. 73. xviii, 435 pp., 24 figs., 1 map. 1968. \$6.00.
- William Bartram: Botanical and Zoological Drawings, 1756-1788.** Edited with an Introduction and Commentary by JOSEPH EWAN.  
Vol. 74. xii, 180 pp., 60 pls. (20 in color). 1968. \$35.00.
- Induction and Intuition in Scientific Thought.** PETER BRIAN MEDAWAR. (Jayne Lectures for 1968.)  
Vol. 75. xi, 62 pp. 1969. \$2.00.
- The Journal of Charles Mason and Jeremiah Dixon. Transcribed from the Original in the United States National Archives, with an Introduction.** A. HUGHLETT MASON.  
Vol. 76. xii, 231 pp., 7 figs. 1969. \$5.00.
- Early Transactions of the American Philosophical Society, published in the American Magazine during 1769, reprinted in facsimile with a commemorative essay by a member of the Society.**  
Vol. 77. viii, 135 pp., 1 fig. 1969. \$3.00.

# TRANSACTIONS OF THE AMERICAN PHILOSOPHICAL SOCIETY

---

**The Painted Medallions in the Sainte-Chapelle in Paris.** ROBERT BRANNER.

Vol. 58, pt. 2, 42 pp., 82 figs., 1968. \$1.75.

**Sanskrit Astronomical Tables in the United States.** DAVID PINGREE.

Vol. 58, pt. 3, 77 pp., 1968. \$3.00.

**The Privy Council and the Spirit of Elizabethan Economic Management, 1558-1603.** VINCENT PONKO, JR.

Vol. 58, pt. 4, 63 pp., 1968. \$2.00.

**The Basic Values in Law. A Study of the Ethico-legal Implications of Psychology and Anthropology.**

THOMAS E. DAVITT.

Vol. 58, pt. 5, 144 pp., 1968. \$4.00.

**The Systematics and Evolution of the Moinidae.** CLYDE E. GOULDEN.

Vol. 58, pt. 6, 101 pp., 48 figs., 1 pl., 1968. \$3.50.

**Prussian Mercantilism and the Rise of the Krefeld Silk Industry: Variations upon an Eighteenth-century**

Theme. HERBERT KISCH.

Vol. 58, pt. 7, 50 pp., 1968. \$2.00.

**Daniel Carl Solander, Naturalist on the "Endeavour."** ROY A. RAUSCHENBERG.

Vol. 58, pt. 8, 66 pp., 1968. \$2.50.

**The Infidel Scourge of God: The Turkish Menace as Seen by German Pamphleteers of the Reformation Era.**

JOHN W. BOHNSTEDT.

Vol. 58, pt. 9, 58 pp., 4 figs., 1968. \$2.00.

**Studies in Indian Grammarians. I: The Method of Description Reflected in the Sivasūtras.** GEORGE CARDONA.

Vol. 59, pt. 1, 48 pp., 1969. \$2.00.

**Criminal Syndicalism and the Law in California, 1919-1927.** WOODROW C. WHITTEN.

Vol. 59, pt. 2, 73 pp., 3 figs., 1969. \$3.00.

**Charles Willson Peale with Patron and Populace. A Supplement to Portraits and Miniatures by Charles Willson**

Peale with a Survey of his Work in other Genres. CHARLES COLEMAN SELLERS.

Vol. 59, pt. 3, 146 pp., 176 figs., 1969. \$6.00.

**Asclepius of Tralles. Commentary to Nicomachus's Introduction to Arithmetic.** LEONARDO TARÁN.

Vol. 59, pt. 4, 89 pp., 1969. \$6.00.

**Physiognomics in the Ancient World.** ELIZABETH C. EVANS.

Vol. 59, pt. 5, 101 pp., 1969. \$4.00.

**Cosimo Brunetti: Three Relations of the West Indies in 1659-1660.** SUSAN HELLER ANDERSON.

Vol. 59, pt. 6, 49 pp., 2 figs., 1969. \$2.00.

**Ideas of Religious Toleration at the Time of Joseph II: A Study of the Enlightenment among Catholics in**

Austria. CHARLES H. O'BRIEN.

Vol. 59, pt. 7, 80 pp., 1969. \$2.50.



ISBN 1-4223-7144-1



9 781422 371442